AMERICAN

MAY · 1956

Cinematographer

THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY

In This Issue · · ·

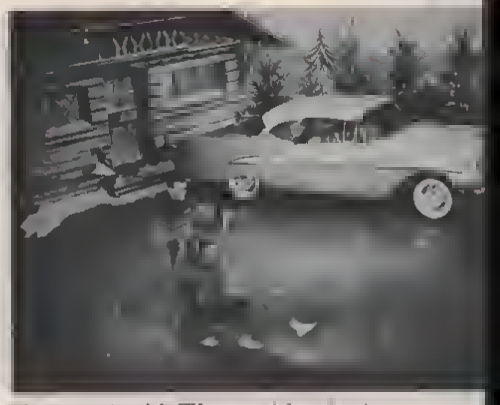
- Mobile Camera Shots for "The Reason Gun Alive"
- Plastic Blimps For Shooting Movies Under Water
- Wide Angle Problems in Wide Screen Photography

25c

FOREIGN 35c

Drummond Drury, Director of Photography shooting at Video Pictures, Inc., is primarily concerned with filming top-product TV commercials. He says, "We're interested in getting highest possible quality . . . and Du Pont 'Superior' 2 gives better images than any other black-and-white film we've ever used."

Du Pont Representative Joe Dougherty (right) is a frequent visitor at Video Pictures, Inc. He discusses technical aspects of using Du Pont Film with Mr. Drury



Filming an automobile TV commercial requires top performance at every point. The long scale of Du Pont "Superior" 2 captures details in highlights and opens up shadows for best footage obtainable

"Long scale, speed, fine grain...features that make Du Pont 'Superior' 2 ideal for TV filming!"

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"When shooting TV commercials, Video Pictures demands the utmost from a film," says, Drummond Drury, Director of Photography. "Du Pont 'Superior' 2 gives us fine grain to catch detail, long gradation and wide latitude to capture middle tones and record the image properly.

"For example, shooting automobile commercials is a case where good middle tone register is extremely important. In addition, clean highlights and remarkable shadow detail obtained with 'Superior' 2 record the set just the way we want it.

"The emulsion of 'Superior' 2 Motion Picture Film is more rugged than any we have ever tested," adds Mr. Drury. "It's much less susceptible to scratches from shooting and processing operations. And, by controlled development, we can increase film speed without danger of enlarging the grain. 'Superior' 2 has proved to be a film we can depend on to show the client's product as he wants it shown!"

Video Pictures insists that the release prints go on Du Pont Type 824 Fine Grain Low Contrast Positive . . . this film gives the low contrast necessary for good TV reproduction. They use Du Pont 802 B Sound Recording stock for their sound recording to complement the fine results obtained on "Superior" 2 and Du Pont Type 824 Low Contrast Positive stock.

FOR MORE INFORMATION, write or call the nearest Du Pont Sales Office (listed below) or the Du Pont Company, Photo Products Department, Wilmington 98, Delaware. In Canada: Du Pont Company of Canada Limited, Toronto.

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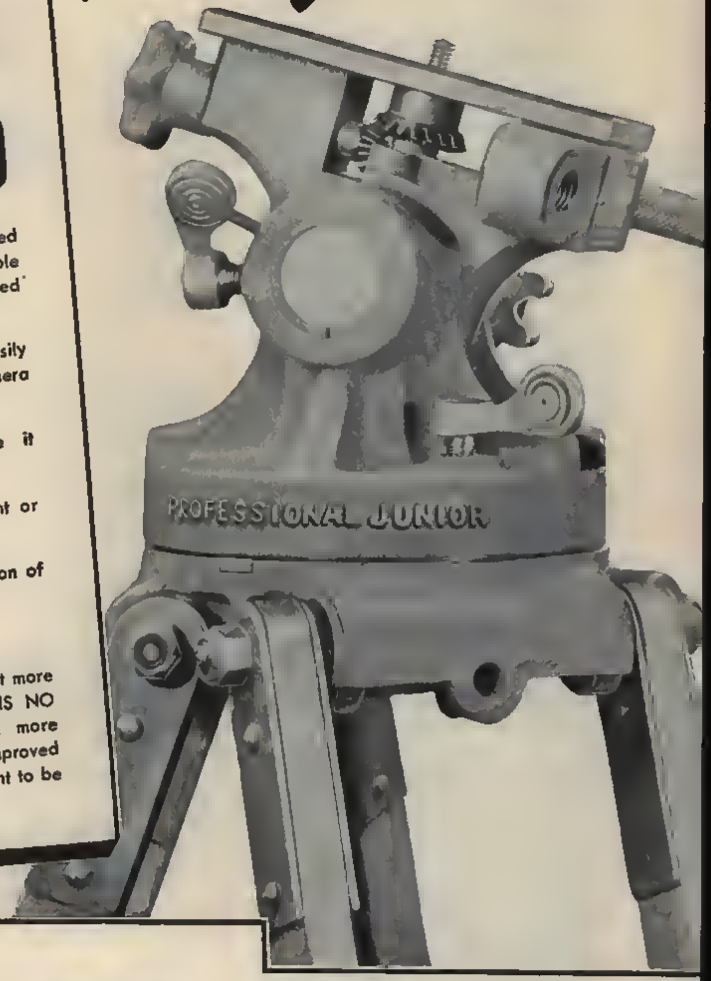

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Cinematographer

THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY
PUBLICATION OF THE AMERICAN SOCIETY OF CINEMATOGRAPHERS

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EDITORIAL ADVISORY BOARD: John Arnold, Arthur Edeson, Lee Garmes, Charles Rosher, Leon Shamroy, Fred Gage, Glenn R. Kershner

Editorial and Business Office: 1782 N. Orange Dr., Hollywood 28, Calif.
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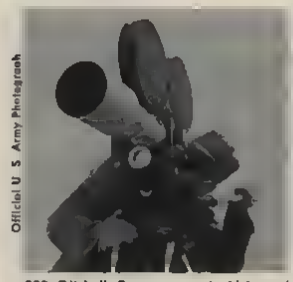
ON THE COVER

THE CAMERA is focused on mammoth animated grasshoppers rotated on a giant wheel for a sequence of "The Animal World," produced and directed by Irwin Allen for Warner Brothers. Director of photography is Harold E. Wellman, A.S.C.

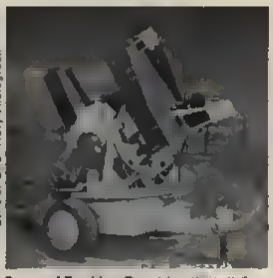
AMERICAN CINEMATOGRAPHER, established 1920, is published monthly by the A. S. C. Agency, Inc., 1782 N. Orange Dr., Hollywood 28, Calif. Entered as second class matter Nov. 13, 1937, at the postoffice at Los Angeles, Calif., under act of March 3, 1879. SUBSCRIPTIONS: United States and Canada, $3.00 per year; Foreign, including Pan American Union, $4.00 per year. Single copies, 25 cents; back numbers, 30 cents; foreign single copies, 35 cents; back numbers, 40 cents. Advertising rates on application. Copyright 1956 by A. S. C. Agency, Inc.

Multiple Mitchell Cameras on Mobile Turret at U S. Naval Air Missile Test Center Point Mugu, Calif Seventeen 35mm and five 16mm Mitchells are used here

CAMERA BECOMES BASIC RESEARCH TOOL



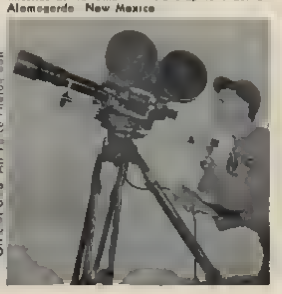
200 Mitchell Cameras, mostly high speed models, are in use here at White Sands Proving Ground, New Mexico



Powered Tracking Mount has Mitchell Cameras; over 50 Mitchells are used at U S Naval Ordnance Test Station, Inyokern, Calif

Mitchell Telephoto Tracking Camera in use at Air Force Missile Test Center, Cape Canaveral Florida

One of 12 Mitchell cameras used to track missiles at Holloman Air Development Center Alamogordo New Mexico



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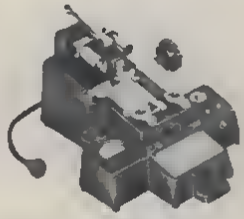

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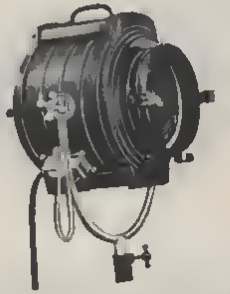

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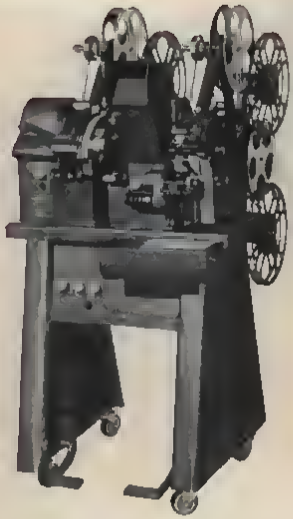

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George Folsey Elected President Of Amer. Society Of Cinematographers

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GEORGE J. FOLSEY, A S C.

GEORGE J. FOLSEY, a director of photography at Metro-Goldwyn-Mayer Studio for the past twenty-five years, last month was elected President of the American Society of Cinematographers. He succeeds Arthur C. Miller, who retired after serving two terms.

Previously, Folsey had served on the Society's Board of Directors in various offices from Secretary to Vice-President He has been a member of the Society since 1927

One of M-G-M's top flight cinematographers Folsey has photographed a big share of that studio's most important feature productions His credits include such memorable productions as "Green Dolphin Street." "If Winter Comes." "Take Me Out To The Ball Game." "Adam's Rib" "Lovely To Look At." "Million Dollar Mermaid." "Executive Suite." "Seven Brides for Seven Brothers." "Deep In My Heart," and "Forbidden Planet," soon to be released

Despite his impressive work, he has, as he terms it, "been always a bridesmaid, but never a bride," in the matter of Academy Awards His photography has been nominated for awards more then a dozen times. Last year he was on the Nominees' list with two nominations: for "Executive Suite" for best black and white photography, and "Seven Brides for Seven Brothers," color photography He's hopeful that the Academy's voting will yet bring him a cherished Oscar before he retires, which he can display along with the dozen or more Nomination certificates he has acquired over the years

George Folsey is one of the few top men in the field who did not come into the motion picture business with some previous experience in photography When he got his first job with an eastern studio at the age of fourteen, he had no interest in photography whatever He had found a job as office boy at the old Lasky Feature Play Company in New York and had accepted it with routine interest until the following day when he saw trekking through the Studio's front door many of the great movie stars he had admired at the neighborhood nickelodeon: Marguerite Clarke, Carlyle Blackwell, Mary Pickford, Louise Huff, John Barrymore, Harold Lockwood and other "greats" of the days of the memorable early "silent" films

"The more I saw of the picture business, the more I wanted to be a part of it." Folsey says. "Eventually there came the opportunity for me to go out on the sets and work with one of the cameramen. Assistant cameramen were a very new luxury in those pioneer days It was my first introduction to photography, and somehow I took to it instinctively. I loved to stay at the studio nights and work with my boss who taught me how to develop film, shoot titles, develop and make prints of stills, etc.

"Finally after four years as an assistant, I was promoted to second cameraman. Shortly thereafter, the cameraman on a picture whom I was assisting walked off the job half way through the production. I was asked if I could take over and complete it. With the confidence of a brash eighteen-year-old I said 'yes'—and stepped into the most difficult assignment I have ever had.

"For it wasn't just an ordinary picture. The star, Alice Brady, played a dual role—and a difficult one. She not only had to talk to herself in the two characterizations, but to walk all around herself, shake hands with herself, and even pin jewelry on herself. Today's great standbys—process photography and optical printing—weren't even invented yet, so I had to do the whole thing in the camera

"Probably because I didn't know any

(Continued on Page 290)

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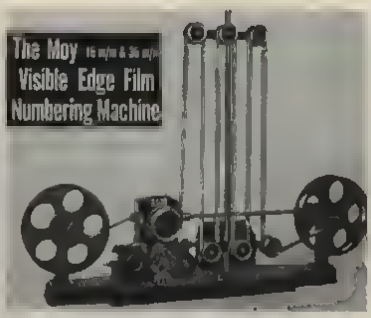

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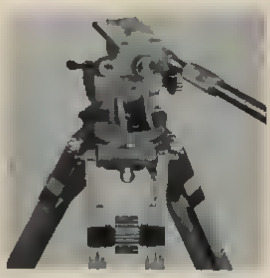

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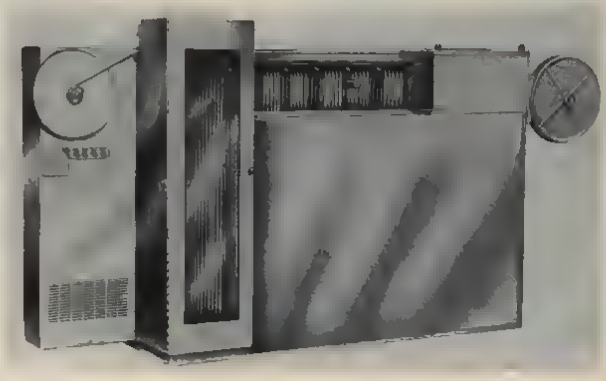

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News briefs about the A S C. its members, and important industry personalities

TURNING OVER the gavel of office to newly-elected President of the A S C., George J. Folsey (left) is outgoing President Arthur C Miller Event took place at Society's annual installation of Officers last month.

OSCAR-WINNER James Wong Howe is presented with commemorative plaque by A.S.C President Folsey, which Howe then mounted on the A.S.C.'s "Wall of Fame" Howe won Oscar for photography of "The Rose Tattoo."

ALSO MAKING the A.S.C.'s "Wall of Fame" for first time is William Sickner (left) who is being presented with plaque commemorating his accomplishment in winning an Emmy this year for achievement in TV film photography

AMONG presentations made during A S C Installation ceremonies was plaque by outgoing-President Arthur C. Miller to Treasurer Walter Strenge in appreciation of his assistance and services to Miller past two years

Two Hollywood cinematographers were admitted to active membership in the American Society of Cinematographers last month They are Jack Warren of Paramount Studio and Clarence Shifer of 20th Century-Fox.

The following were also voted to Associate Membership in the Society: Robert E Burns, Ft Lee. N. J.; John H. Maynard, Chicago, William J. Reddick, Ft. Lee; Thomas L. Gibson, Chicago; and Wilford W Bower, Ft Lee. All are associated with W. J. German, Inc.

• • •

Gilbert Warrenton, A.S.C., has completed the photography of 52nd and final episode in the TV film series, "Sergeant Preston of the Yukon," produced by Skinner Studios, Hollywood The entire series was photographed on 35mm Eastman Color film As most of the action takes place in snow country, company was kept on the move shoot

(Continued on Page 280)

Safety...10 miles high!

... assured by Turco's Flaw Detection Method filmed at Northrop Aircraft with Auricon 16mm Sound Cameras

Cralen Enterprises, Inc., filming William Cox of Northrop Public Relations, as he interviews Robert Love, jet ace, after test flight in Northrop F-89 all-weather interceptor

The full story of flaw detection in metals with Turco "Dy-Chek" Dye Penetrant is the subject of a new Training Movie in sound and color, filmed at Northrop Aircraft with Auricon 16mm Sound-On Film Cameras.

The film shows how "Quality-Control" checks metal parts for the Northrop F-89 all-weather jet interceptor right on the production line, with Turco's "Dy Chek" inspection process!

Turco's new Training Movie on "Dy-Chek" Flaw-Inspection Process, is shown during filming at Northrop Aircraft, with Craig Curtis (at camera) and Lennie Blondheim, both of Cralen Enterprises, Inc., Hollywood, California.

This film is another example of how Training Movies and Industrial Motion Pictures can be produced with precision and fidelity using Auricon 16mm Sound Cameras. Professional Auricon Built-in Features, include Self-blimping Camera design, Synchronous Motor Drive, Auricon-Electromatic Take-up, etc. Many producers and cameramen have named Auricon..."the finest 16mm Sound Camera ever built!"

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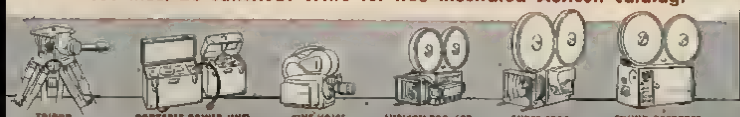

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BULLETIN BOARD

(Continued from Page 278)

ing sequences in Aspen, Colorado; in Kernville and Big Bear Lake, California, and at Mammoth Lake. According to Warrenton, 60% of all shooting was exteriors.

• • •

Karl Freund, A.S.C., last month terminated a five-year association with Desilu Productions as Director of Photography. Freund is credited with being the first to develop and put into use the system of three cameras for shooting TV films in extended takes. He had photographed most of the "I Love Lucy" shows filmed to date. He also photographed numerous episodes of the "Our Miss Brooks" and "December Bride" television shows.

Freund has plans to return to production of feature length films as producer-director.

He continues active as president of Photo Research Corporation, Hollywood.

AMERICAN SOCIETY OF CINEMATOGRAPHERS

FOUNDED January 8, 1919, The American Society of Cinematographers is composed of the leading directors of photography in the Hollywood motion picture studios. Its membership also includes non-resident cinematographers and cinematographers in foreign lands. Membership is by invitation only.

•

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The Akeley Gyro Tripod features three different pan speeds, each easily selected by the operator, giving a wide range of movement to meet all possible requirements. The gyro mechanism is provided with ball-bearings throughout, insuring ease of action. Leveling is done quickly by releasing a knob on the bottom of the tripod. The gyro head can be tilted and the stops easily adjusted.

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The perfect camera for the motion picture film maker working in both 16mm or 35mm color or black and white

LOOK AT THESE ADVANTAGES—

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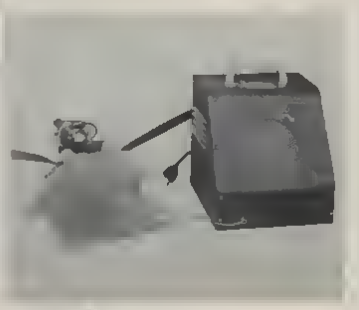


Synchronizer Attachments

Precision Laboratories, Inc., 1139 Utica Ave., Brooklyn 3, N. Y., announce a new line of magnetic synchronizer attachments for use with Moviola, Neumade and HFC synchronizers in editing magnetic sound tracks. The new units feature magnetic head mounts with adjustments, for track and magnetic tape and film thickness.

Incorporated in each unit is a safety-fused 4-watt amplifier with pilot light; built in heavy-duty Alnico-V PM speaker, six-foot line cord, and six-foot cable for the magnetic head. Prices and further data may be had by writing the manufacturer.

RCA to Service H-F Equipment

RCA Service Company's New York repair shop facilities at 419 West 54th St., has been appointed official servicing agency for Houston Fearless film processing and TV studio equipment, for the East Coast.

New Sound System

A new sound system for small theatres called the Westrex Economy System is announced by Westrex Corp., New York. The single-channel system is composed of the following main units:

Westrex RII photographic reproducer, which features silent chain drives and oilite bearings; Westrex Economy 45A single-channel transmission cabinet; Westrex 26-type 30-watt power amplifier; and the Westrex 14-type loudspeaker assembly.

Non-toxic Film Cleaner

Neumade Products Corp., 330 West 42nd St., New York 36, N. Y., announces a non-toxic cleaning solution for motion picture film. Trade-named "Renovex," solution can be used anywhere without usual precautions regarding ventilation or exhaust of fumes. List price is $3.00 per quart, $9.90 per gallon.

Anti-dust Brushes

Polonium, which emits radioactive Alpha Rays, and thus neutralize surfaces so that they will not attract further dust, is incorporated into the design of a line of brushes designed especially for photographic use, such as cleaning surfaces of lenses, film, film gates, etc.

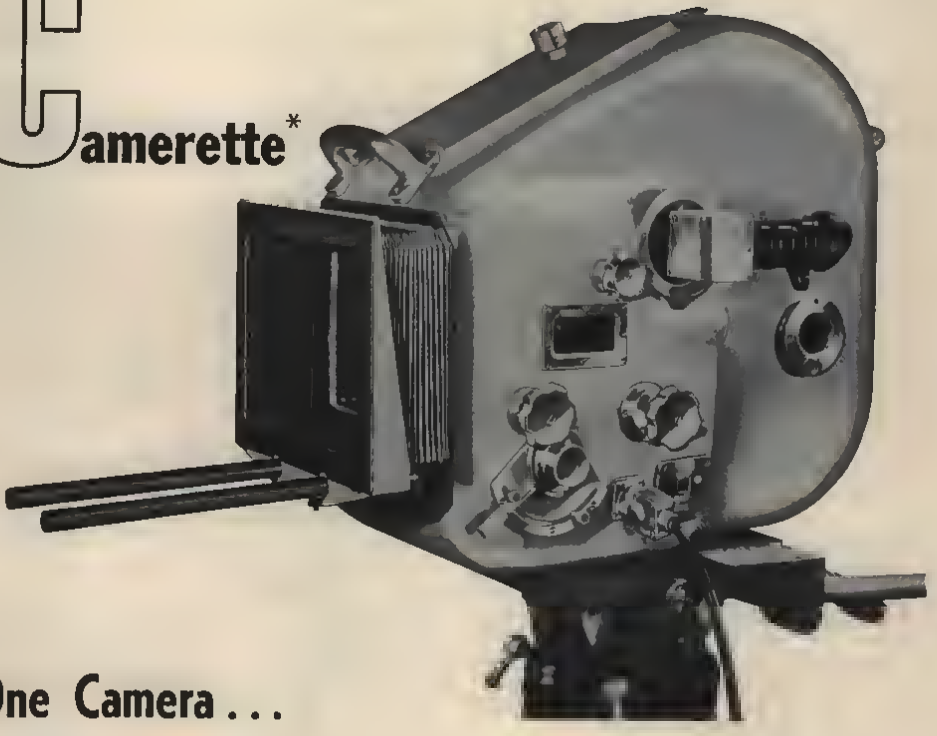
Trade named Alpha Ray Static-Brush, manufacturer is C & K Gugenheimer, 898 River Road, Edgewater, New Jersey.

"Giroffe" Camera Crane

S.O.S. Cinema Supply Corp., 602 W. 52nd St., N. Y. City, has been appointed distributor for the Giraffe camera crane. Crane is self-contained and operates independently of the truck or trailer chassis on which it may be mounted. It can also be placed on a barge, dock, trailer, railcar, etc.

Platform will support load of 450 pounds and remains level at all times. Foot controls on platform leave cameraman's hands free for handling camera. Crane may also be operated from its base through dual set of controls.

Camerette*



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- Reflex viewing through taking lens at all times.
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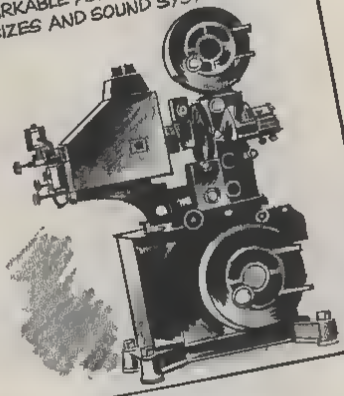

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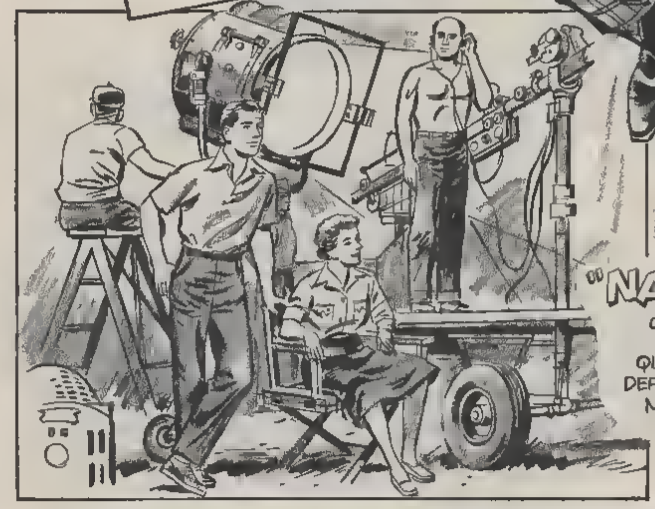
ACHIEVE THE GREATLY IMPROVED PICTURE QUALITY NEEDED FOR NEW, GIANT SCREENS. PROGRESS NEVER STOPS IN THE FILM INDUSTRY...



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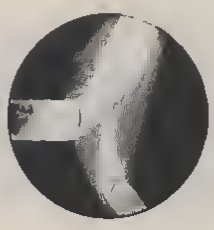

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. . . but a pretty face is one end which justifies the means

A film laboratory, however, (if you've wondered why we brought the subject up at all) is another matter. Here the facade is not important, is not an end in itself. It is the abilities of the men and equipment behind the facade that count.

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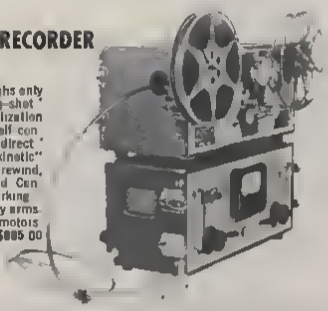
A complete sound system that weighs only 27 lbs! Features high gain 'long-shot' microphone channel Dialog equalization for "speech music" selection Self-contained playback system for 'film direct' monitor Famous Magnasync "synkinetic" precision film transport High speed rewind, sync speed reverse and fast forward Convenient arrangement for "sync marking Footage counter extended capacity arms quick detach mount for special motors Unconditionally guaranteed! $885 00



16mm CINE-VOICE

AURICON

AURICON CINE-VOICE

popular priced 16mm camera that photographs a sound track, perfectly lip synchronized with the picture—to be played on any 16mm sound projector Single lens model $885 00

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16mm optical sound on film self-blimped sync motor drive for single or double system recording. Electromatic take up, film flow without friction clutches or belts Various combinations of accessories available $1165 00

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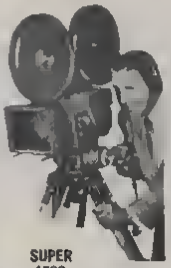

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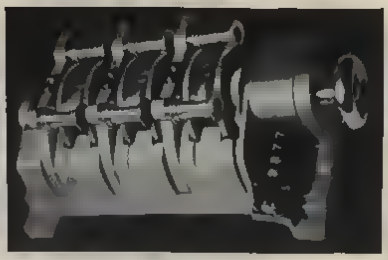
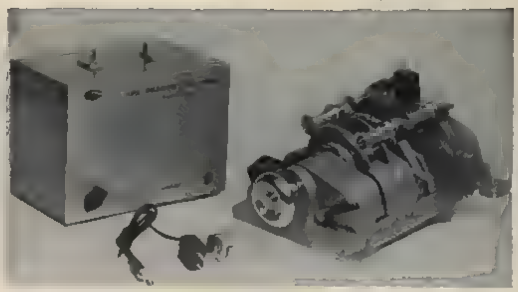


35mm 3 Way Synchronizer $165 00



1. Fastens to roller arm of synchronizer
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5. Tape head can be slid up and back to read o track in any position of fullcoat or magnastripe.

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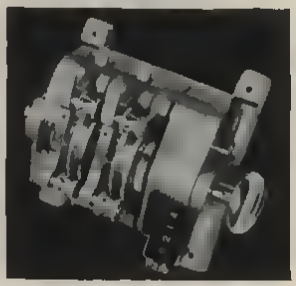

16mm 2 Way Synchronizer $125 00

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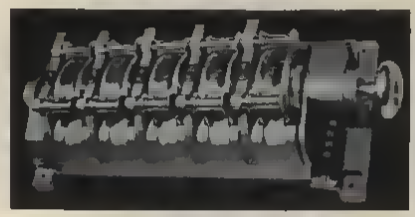
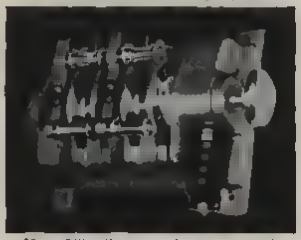
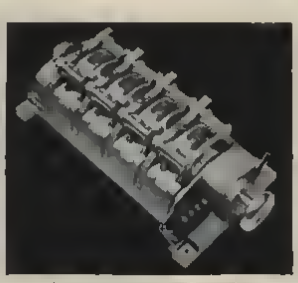


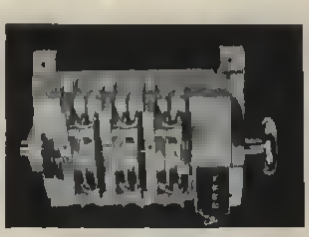
35mm 5-Way Synchronizer $225 00



35mm 2 Way Vistavision Synchronizer with Footage & Frame Counter $160 00



35mm 4 Way Synchronizer $190 00



16mm 3 Way Synchronizer $165 00

65-35mm Combination Synchronizer $380 00

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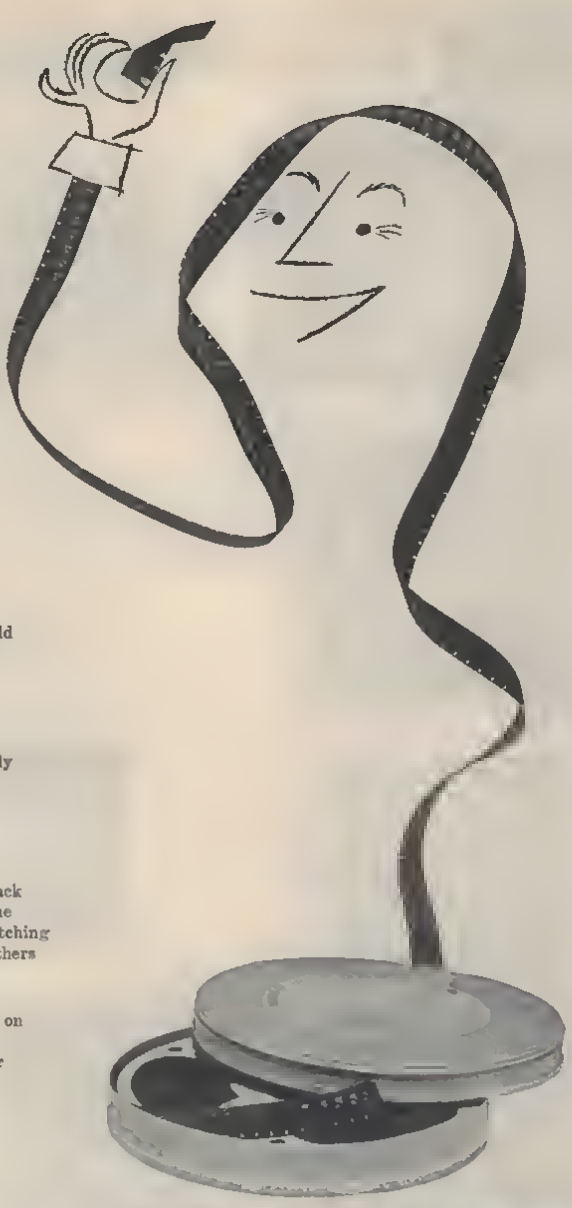

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to 1200 ft. capacity.

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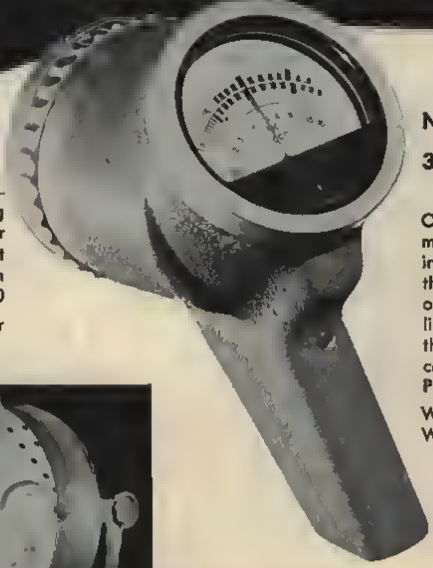

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3-color **METER**

Only accurate meter tha measures *all* light sources including *daylight*. Measure the propartionate amount of all 3 primary colors in th light source, and indicate the filters needed far positiv color correctian. Product o Photo Research Corporation

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Illustrated with BALANCED TV Head. Alsa takes Professional Junior and most standard tripods. You can't beat it for lightweight convenience. $300.00

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Most versatile shadowless floodlight you can buy. Used extensively by film studios.

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Complete line of 16mm and 35mm Cameras

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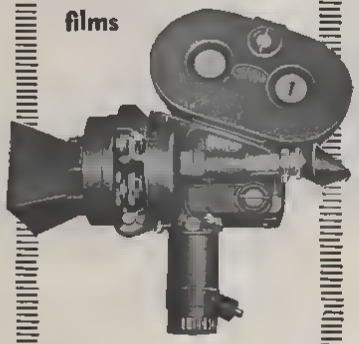
New 35 mm Model 2A
With 180° Shutter

A TRULY GREAT CAMERA

for TV, Newsreel and commercial films



Far tough and trying assignments, ARRIFLEX 35 is in a class by itself. Reflex focusing through photographing lens while camera is operating—this is just one outstanding ARRIFLEX feature.

Equipped with bright, right-side-up image finder, 6½ x magnification. Solves all parallax problems. 3 lens turret. Variable speed motor built into handle operates from lightweight battery. Tachometer registering from 0 to 50 frames per second. Compact, lightweight for either tripod or hand-held filming. Takes 200' or 400' magazine. Write for free folder.

Blimp now available.
16mm ARRIFLEX also available.

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CAMERA EQUIPMENT CO.
315 West 43rd Street, New York 36, N. Y.

GEORGE FOLSEY ELECTED A.S.C. PRESIDENT

(Continued from Page 276)

better. f worked out a comparatively simple method of doing these scenes fnstead of using elaborate mattes, I used lighting: I did many of the takes on a set completely upholstered in black velvet, and kept this from photographing by simply keeping all light away from it, and concentrated solely on my actors. Using this for some takes, and an identical, normal set for the others, f managed to get what the script called for

"For the rest, I guess I was lucky I'd learned pretty well what was then known about photographing sets and people—and f was particularly in luck with my star, for Miss Brady was in love, and f don't think anyone could have made her photograph badly, she was so radiantly happy. At any rate, she was pleased with what I did, and so were the director and producer I was a full-fledged First Cameraman from that day on "

George Folsey recently completed the photography of M G M's provocative thriller, "The Fastest Gun Alive," about which he has written an article appearing in this issue On May 1st, he begins shooting "The Power and the Prize," a black and white production for which he has worked out some unique photographic innovations

In addition to the election of Folsey as President, five new members of the Board of Governors were elected for three-year terms They are· Arthur Edeson, John Boyle, Russell Harlan, Milton Krasner, and Joseph Ruttenberg

Alternate Board Members elected are: John Arnold, Robert Burks, Ellis Carter, Lee Garmes, Irving Glassberg, Ernest Miller, Victor Milner, Robert Pittack, Sol Polito, and Paul Vogel

Other Officers, in addition to President Folsey, selected from within the Board of Governors to serve for the ensuing 12 months are· Joseph Ruttenberg, 1st V pres.; Joseph Biroc, 2nd V-pres , Milton Krasner, 3rd V pres , Walter Strenge, Treasurer; Ray Rennahan, Secretary, and Sol Halprin, Sergeant-at-arms

INDUSTRY NEWS

A high-speed Motion Analysis Camera, capable of taking high quality pictures within the range of 5,000 per second and incorporating the most advanced features of high speed photography, has been designed by the Fairchild Camera & Instrument Corporation of Syosset, N. Y

The lightweight 16mm camera, now undergoing field testing, has been designated the "Fairchild Motion Analysis Camera" and has been designed for Versatility as well as speed.

This new camera, utilizing rotating prisms instead of a blade shutter, can be adapted to many variations, each for a specific use An Industrial model is planned which is capable of taking as many as 5,000 pictures per second; an Airborne model has been designed which has a maximum exposure speed of 2,000 frames per second; and a Missile hit-miss model, already proven to take 250 pictures per second, is being engineered to photograph up to 1,000 pictures per second Both the fndustrial and Airborne models have film capacities of 100 and 200 feet, using daylight loading spools.

The cameras are both lightweight and compact. To give particular speed ranges, a family of interchangeable 28-volt DC motors are used to drive the several models. Because of their lightweight and small size, the motors can furnish maximum acceleration in a minimum of time and the camera has sufficient power to start at high speed

The cameras are simple to operate. There is only one switch and two sockets on each—one for motor power and one for the timing light Loading is extremely simple· Speed of the camera can be varied during the passage of the film through the camera.

Applications of the Motion Analysis Camera include the recording of high speed electrical phenomena, automatic machinery, explosions, guided missiles, hydraulic phenomena, deceleration tests to stimulate gravity pull, every field of entertainment and sport—even to recording the velocity of a baseball or a golf ball.

e e e

A 400-cycle magnetic signal-level test film, providing an absolute reference for the level of magnetically recorded signal, is now available from the Society of Motion Picture & Television Engineers Film is designed for use by the 16mm equipment and sound recording industry as a basis for determining amplifica-

(Continued on Page 326)

May cost you less to own

than it costs to rent other equipment

ARRIFLEX 35

MODEL IIA

with soundproof blimp and synchronous motor . . .

For little more than the usual rental charges for equipment, you can own a complete Arriflex 35 Model IIA sound outfit, including the variable speed motor, Synchronous Motor and Soundproof Blimp. As a result, more and more studios and cameramen are recognizing this fact and are buying Arriflex.

The Arriflex 35 Model IIA offers many advantages over other 35mm cine cameras. For example, without the Blimp and with battery-operated variable-speed motor, the Arriflex is an unusually light and easy camera to handle — ideal for location shots under the most difficult conditions — even for handheld filming. With the Soundproof Blimp and Synchronous Motor, it becomes the perfect camera for lip-synched sound — both in the studio and out.

The Arriflex 35 IIA features a 180° Mirror Reflex Shutter for through-the-lens viewing and follow focus. A new type of intermittent mechanism with registration pin action assure absolutely rock-steady pictures in perfect register.

Many other improvements have made the Model IIA the most desirable camera in the field. In fact, every important feature you would expect in a camera designed for first rate filming has been incorporated in the Arriflex 35 Model IIA.

Write for complete information to:

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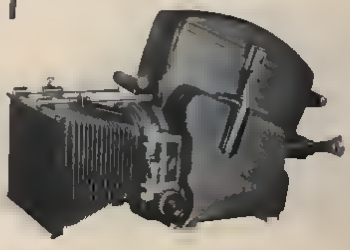

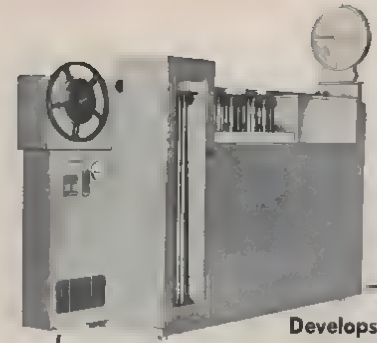

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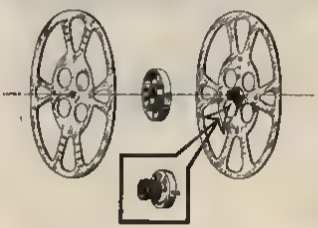

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MOBILE CAMERA SHOTS FOR "THE

How the dramatic and pictorial values of this powerful M-G-M production were enhanced through wide use of the moving camera.

LOW, UNDERSLUNG camera dolly used in photographing many exteriors for "The Fastest Gun Alive." Here a follow shot is made in closeup of actor Glenn Ford in horse-drawn vehicle

WHAT CAMERA sees here is stage coach driver o his horses in a reverse angle, as coach obstens

AN UNEASY TENSION sweeps through Silver Rapids as three strangers ride into the small western town. The cruel arrogance of Vinnie Harold, the dissolute menace of his partners draw every eye to them.

Harold is looking for a man named Clint Fallon. "They say you're faster with a gun than me," are his first words when they meet. Moments later, Fallon lies dead in the street —outdrawn.

"On his headstone, I want it wrote that he was killed by me—the fastest gun there is," Harold tells the townspeople.

Cross Creek, some distance away, is a peaceful little town, but there is little peace within shopkeeper George Temple. A series of seemingly harmless incidents rile him further until his pent-up emotions explode. Bolting from his store, he heads for the saloon.

In his four years in Cross Creek, George has never taken a drink—nor carried a gun. So it was obvious to his friends that he must be drunk when he makes the derisive claim, "I'm the fastest gun alive!"

Their laughter is stilled, however, when George, running back to his store, returns with a gun—with six notches in the handle. Before their startled eyes, he puts on a shooting exhibition such as they never have seen, nor believed possible.

Later, George is explaining that he must go away—that the reputation of a fast gun will attract to the town and destroy it—every killer who fancies himself the fastest gun, when the arrogant Vinnie Harold and his two partners ride into town. It is in a strange duel that Harold learns he has a new rival, and an even stranger duel that takes place. Yet, the most startling of all is its aftermath.

The surprise twists that characterize the climax and end-

FASTEST GUN ALIVE"

By GEORGE FOLSEY,
President, American Society of Cinematographers

ives in small western town. Car serves dual pose, conveying actors as well as camera

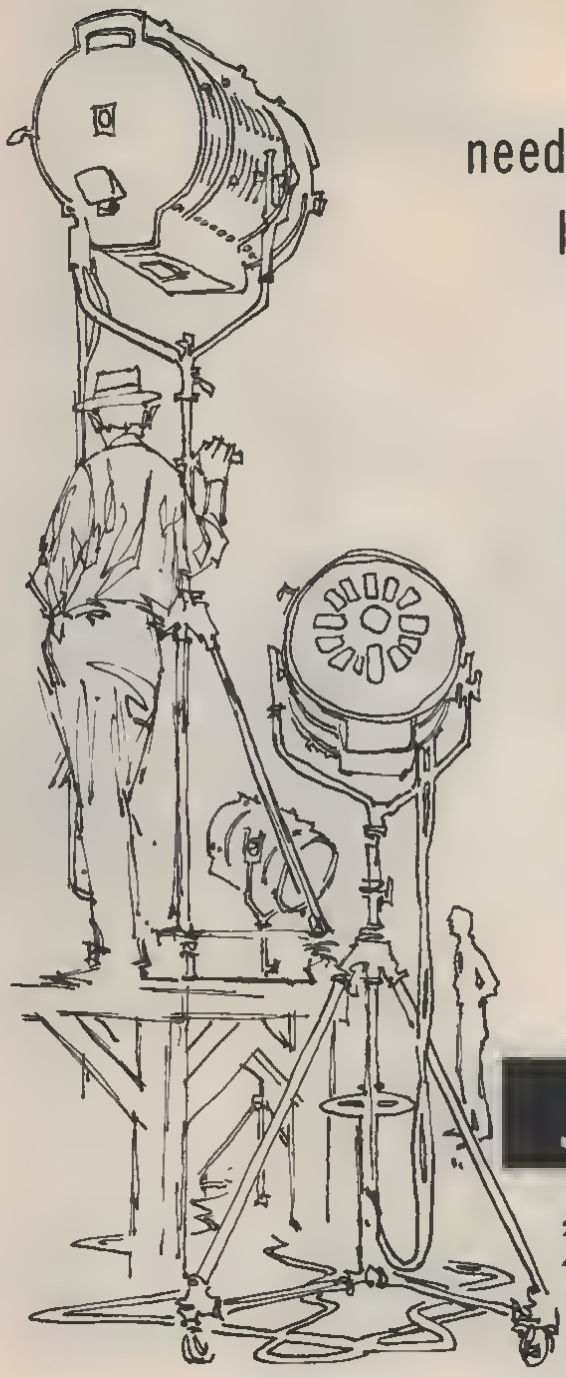
DRAMATIC FOLLOW shots and aerial zoom shots were made with the Mitchell camera mounted in helicopter. Supervising installation of camera is George Folsey, A.S.C., 2nd from left.

ing of this latest M-G-M screenplay preclude our revealing them here. But being an action drama, with most of the action staged out of doors—75% of the footage is exteriors—some interesting photographic procedure was involved. For one thing, few pictures made at M-G-M in recent years required use of the mobile camera to such an extent, nor demanded such a diversification of mobile camera units. These ranged from the familiar RO crane to a helicopter. The accompanying photos show the camera crew in action photographing some of the principle moving camera shots for "The Fastest Gun Alive," and using camera carriers of three different types.

The first photo shows a Mitchell camera with CinemaScope lens mounted on an underslung camera dolly. As may be seen, the dolly is large enough and sturdy enough to also accommodate the camera crew and a heavy arc lamp and stand used for fill or booster light. Although the lamp is on the same side as the sun, with relation to actor Glenn Ford, its illumination is sufficient to light up the shadow side of the player's face. The dolly is moved by grips to keep pace with the horse-drawn vehicle, while other grips walk alongside and keep the necessary power cables free from entanglement. An odd note here is the soundman riding a horse backwards as he holds the mike boom over Glenn Ford to pick up the dialogue. All concerned work as a smoothly integrated team toward the end that the resultant take shall be properly lighted, the dolly action smooth, and the mike or its shadow kept out of camera range.

The studio's recently acquired Chrysler camera car was put to good use in making the unique shot shown in the

(Continued on Page 318)



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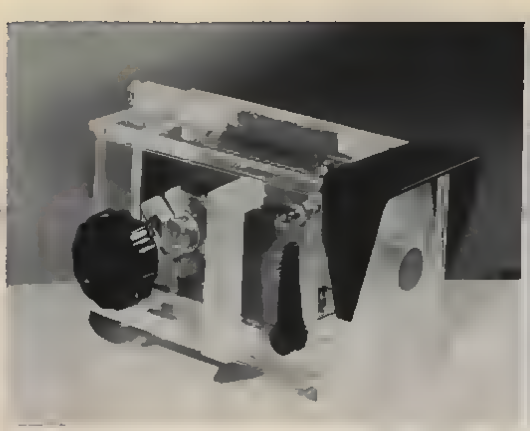


ONE OF the many compact plexi-glass cases available for cine cameras, which now enable almost any amateur to make interesting movies under water.

JORDAN KLEIN, Florida underwater expert and designer of the Mako line of underwater blimps for 8mm and 16mm cameras. He holds aluminum case he designed for the 16mm Arriflex camera

Plastic Blimps For Shooting Movies Under Water

Water - tight camera cases of plexi-glass, available for many cine cameras, make underwater photography a fascinating movie maker's hobby.

By RENEE LITTLE

WHEN THE FIRST motion picture was filmed under water, the camera went below surface in a photosphere from which trailed a hundred-and-one wiring connections. The site was off the coast of Nassau, B W I. Today, less complicated equipment affording greater mobility and range is used by both professionals and amateurs—the latter, enjoying a completely new field of cinematography, thanks to the ingenuity of Jordan Klein, underwater motion picture and still photographer and president of Underwater Sports, Inc., of Miami, Florida. Nationally known for his undersea work, Klein's research and experimentation led to the manufacture and marketing of a line of water-tight blimps or housings for 8mm and 16mm cameras. These have been a prime factor in bringing underwater cinematography into national prominence for professional and amateur movie makers alike.

Klein's Mako line of products also includes housings for still cameras. But it is the slick, easy-to-handle cases he has designed for 8mm and 16mm movie cameras, exposure meters and flood lights, permitting their use underwater, which are arousing great interest in photographic circles. Those who own the inexpensive 8mm Eastman Brownie Cine Kodak, for example, can indulge in underwater photography by investing an additonal $49.95 for one of Klein's plexi-glass watertight housings designed especially for this camera. Other housings are available for the Bell & Howell

(Continued on Page 316)

JORDAN KLEIN in action behind his blimped camera photographing a TV film on the ocean floor off coast of Florida. Accesseries include exposure meter in water-tight plexiglass case and compressed air "breathing tanks" strapped on back

THE SIMPLE TOOLS used by Australia's Catholic Film Productions are shown here: the 16mm Bolex camera plus groups of photoflood lamps mounted on portable floor stands. Here the Director, Father L. Ryan, runs a tape for author Father O'Shea (behind camera) for a scene for "The Brown Veil," photographed in 16mm color.

3,800 Feet Of Film In 20 Days

Some of the problems encountered by a small producer of 16mm religious films in Australia.

By REV. JOHN A. O'SHEA

TO SHOOT ENOUGH footage for a 45 minute documentary on the S.V.D. Missions in New Guinea within the short period of 20 days was the rather tough assignment given Director Leo Ryan of Catholic Film Productions, Melbourne, Vic. The result however was the excellent color film "Other Sheep Have I," which has already run to seventeen prints, and is rapidly making the work of the Missions known both in the States and "Down under" in Sunny Australia.

Catholic Film Productions was formed in 1950 by three Melbourne priests—Fathers Leo Ryan, John Perkins and John O'Shea—with a view to producing educational and religious films to fill a very real local need. In Australia, many of the Catholic Schools have their own 16mm projectors but the supply of suitable religious films is quite restricted. As a result the Fathers set about solving the problem by making their own.

For some years previously each had been working in the 16mm field, but quite independently. By amalgamating, they pooled their equipment, resources and experience. Though the personnel of the unit has at no time been greater than three, it has already produced twelve films totaling 10,000 feet. Shooting and editing is done on their free day each week, while their mission films are shot on location during their annual vacation. Sound tracks are recorded by a Melbourne laboratory.

Camera equipment consists of an H-16 Bolex and a 16mm Pathe Webo. An ex-army tripod with a Miller fluid head is used for heavy duty work, and a Bilora tripod where extreme portability is a necessity. Editing is done with the aid of two Ferguin Viewers, and a Premier synchronizer. Sound and image are run on the one Bell & Howell projector as a final check. Having acquired a synchronous motor drive for the Bolex, plans are being made for the first lip-sync production.

What really put C.F. Productions on the map was the colossal Catholic Life Exhibition held in Melbourne during June '55: 238,000 people passed through its doors in the nine days, and more than 40,000 were accommodated in the theatrette to see the nineteen films screened daily, eleven of which were C-F Productions, three made especially for the Exhibition.

Their most successful film to date has been "Other Sheep Have I." Shot entirely on location in the jungle mission stations of the Wewak Vicariate of North Central New Guinea, this film produced by the "Flying Bishop"—Very Reverend Leo Arkfeld (Panama, 1o) and directed by Leo Ryan (Melb. Vic.) tells the story of the commencement of work in this difficult region at the turn of the century, its total destruction during the recent Pacific war, and the zealous work done by the American and European Fathers and Brothers to rebuild it in the post-war years.

Director Ryan's biggest difficulty apart from shortage of time, was the lack of electrical supply on the majority of mission stations. With only four weeks at his disposal for the entire assignment one week of which went in travelling to and from the Territory, he had to can 3,800 feet of film in 20 days. Although the production was in regular Kodachrome, there was no possibility of waiting for the best sun, or even for the sun at all, which not only made

(Continued on Page 324)

ON LOCATION in North Central New Guinea, the author photographs scenes for a sequence for "Other Sheep Have I."

Closed-circuit Print Inspection Aid To TV Film Photography

By PHILIP TANNURA, A.S.C

Director of Photography, "The Burns and Allen Show"

TO APPRECIATE the full value of closed-circuit projection facilities for TV film prints—a new lab service of particular interest to the directors of photography who film these pictures—it is necessary to view this development as a normal, almost inevitable evolution of progressive laboratory operations. As with many contemporary industrial achievements, this new service did not suddenly spring into being. Its appearance today is a result of past technological accomplishments

Why is this new closed-circuit system important? When should it be utilized? And just what is it all about? Let's take it from the beginning.

Inspection of television release prints via conventional projection methods has long been regarded by many cameramen as inadequate These men have maintained that an unbiased critique of quality cannot be made unless TV release prints are observed "in their element"; namely, over a vidicion tube —not on a conventional motion picture screen.

Consolidated Film Industries in Hollywood believed that this argument had some merit. In fact, they believed it strongly enough to have installed special closed-circuit viewing facilities for the benefit of interested clients and their cameramen. CFI's equipment operates in its new 16mm building where it has been utilized by scores of producers, directors, film editors, agency representatives, and—of course—Directors of Photography. The lab considers its closed-circuit installation as part of a customer service program and no charge is made for normal usage.

Here, then, almost under our noses, is a new electronic device that can be used as a valuable tool by discerning cameramen. In fact, CFI's closed circuit unit has proven its usefulness to cinematographers time after time by permitting inspection of dailies and first trials under actual telecast conditions. Such a screening indicates photographic characteristics of a televised film almost exactly as that print will be seen on the home receiver. Obviously, a screening of any TV release print under conventional projection room standards cannot compare to the "field test" results of actual closed circuit viewing

CFI's installation uses two rooms: one glassed in projection booth housing most of the electronic equipment and the other, a viewing room containing a 17" receiving unit and chairs, tables, smoking stands, etc.

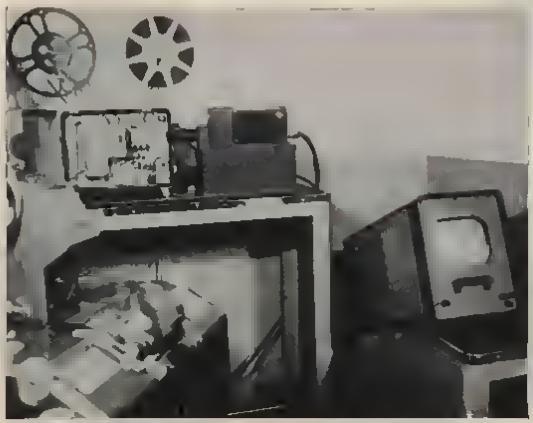
In operation, a DeVry projector accommodates 16mm film with either optical or magnetic track. An RCA Vidicion camera, utilizing a 1" tube, is rigidly mounted on the same platform that secures the projector to assure precise optical alignment. A specially-designed 5" control monitor contains the synchronizing and deflection circuits, video amplifier and power supply. Completing the projection booth equipment, this monitor is engineered specifically for closed-circuit operation on a 525-line 30-frame interlaced television system

In the adjacent viewing room the receiving unit couples to the control monitor and permits the viewing of 16mm prints on a 17" monitor tube, which is comparable in size to the screen in a standard home set.

Reception quality of sound, in addition to picture, is virtually identical to home set sound reception To Hollywood's TV film cameramen the advantages of CFI's closed-circuit installation are threefold:

1. It provides an accurate standard for judging TV film dailies.
2. It establishes an excellent basis for critical evaluation of TV film releases prints under actual "field" conditions.
3. It enables all interested parties to convene quickly and conveniently at a center of film technology—the processing laboratory—where experienced technicians are available to offer expert film advice

Alert craftsmen are always on the lookout for new tools or techniques they can use to good advantage. And according to the impressive reports, closed-circuit print inspection is an aid that deserves serious consideration by every conscientious TV film cameraman. END



CLOSED-CIRCUIT viedo system recently installed at Hollywood plant of Consolidated Film Laboratories, which affords review of TV films as they are seen on television. In background is 16mm projector and the electronic recording camera which picks up the picture image and relays it to review monitor at right, and to the individual customer's preview monitors, one of which is shown in photo at right. Speaker and audio controls are in separate unit on table at right of monitor.

FIG 1—The distortion problem inherent in wide angle lenses is basically the same no matter what wide screen process is used Horizontal and vertical line distortions can be minimized if not eliminated entirely through careful camera placement with relation to the lines, or by choosing a location for the action having no clearly defined lines—as in the outdoor scene above

Wide Angle Problems In Wide Screen Photography

Greater understanding of the virtues and limitations of wide angle lenses can do much to increase the effectiveness of their use in wide screen cinematography.

By GAYNE RESCHER, A S C

WHEN THE SCREEN opened up for the first time on Cinerama's roller coaster a new era was born in motion pictures.

Producers rushed their research departments to find ways of widening the standard screen, and today we are presenting all shapes and varieties of wide screens to the bewildered but interested public Somewhere along the line, however, we may have forgotten what started all this; we may have lost sight of the quality of wide screen that first intrigued us.

The Cinerama roller coaster sequence owed its effect not so much to the width or curvature of the screen as to the extreme wide angle with which it was photographed. The feeling of participation — which is really the only added dimension of Cinerama—is there only when wide screen is combined with wide angle and with movement. And yet the use of the wide angle lens with the various wide screen processes has been discouraged — in many cases by the very studios that developed the process — because of the problems of distortion Some studios, after a few unfortunate experiences, have recommended that no wide lenses be used for wide screen photography. But this policy deprives them of one of the main advantages of wide screen — putting the audience into the action.

The distortion problem is basically of the same nature no matter what wide screen process we are dealing with It depends mainly on the angle of field covered by the lens Obviously, the wider the angle of field, the greater the distortion

While the problem is basically the same, there are variations with each process which I will not attempt to cover here. My purpose is to show the nature of these distortions rather than describe them in detail. We are therefore assuming in the following discussion that the projection

setup is such that the projectors are level with the screen (as in Cinerama) and that no corrections have been made during printing, (As is possible with Todd AO).

Let us assume that we are photographing a set of straight horizontal lines with an extreme wide angle lens. When projected, the center line will be the only line that remains straight. Lines below the center will bend upward as they approach the edge of the screen while lines that are above center will bend down in a similar manner. This bend becomes more pronounced the closer we get to the top and bottom of the screen. (See Fig. 3). When thinking in depth we might say these lines bend back into the screen.

Now while this is a basic distortion, the straight line running through the center (let's call it the line of no distortion) may vary in its position due to the projector-screen setup or other factors peculiar to the process in which we are working. This line of no distortion could easily be above or even below center; so photographic tests similar to the one described above are advisable.

Now suppose we were to repeat the same test but instead of photographing the lines straight on we shoot them at a 3/4 angle. We will find that the bend will hardly be noticeable and certainly not objectionable. The greater the angle from straight on, the less the lines will bend. (Fig. 4).

From the foregoing we can see a number of ways to help ourselves when we wish to use an extreme wide angle lens on a scene containing pronounced horizontal lines. The most obvious, of course, is to keep horizontals in the center of the frame or wherever the line of no distortion happens to be. Unfortunately this is not always possible or desirable.

A less-obvious but often simple solution is to set up the camera so that the prominent lines in the scene are bent in the opposite direction, so that on the screen they will appear straight. When thinking in depth, it can be remembered that horizontal lines off the center bend back into the screen, therefore, these lines should be bent forward (toward the camera) an amount determined through the ground glass. (Or, on paper, if it is a question of set design.) I worked on a picture recently in Cinemascope in which it was necessary in one setup to use a 35mm lens. The scene was a building with a roadway running straight in front of the camera, and the tops of three park benches in the foreground. The far curb of the road ran straight and was close to the center of the frame, but the near curb ran across the screen in a pronounced curve, making a rather strange looking road. We blocked the benches up slightly to cover the nearby curb, and, leaving the center bench straight, we angled the outside benches toward the camera. When seen on the screen, the tops of the benches ran reasonably straight and parallel to the opposite side of the street.

Where possible, the easiest solution in a case of this kind, is merely to change the setup so that any lines in the upper or lower part of the screen become diagonals. In the scene just described, had it been possible to move the camera so that it was three quarters to the road, we would have had no problem.

Still another possibility — and one we had to resort to often with Cinerama — is to break up these lines by blocking them at some point. A floating piece of shrubbery is ideal for this — anything that will keep the eye from seeing the full length of that bent line. Of course, many lines look perfectly all right if they bend. A railroad track bending through the bottom of the screen may look perfectly natural, except when the train comes through and the cars bend in the middle!

If we repeat our line distortion test with vertical lines instead of horizontals and tilt the camera we will see the second basic distortion. The center line again runs true but the other lines are displaced off the vertical more and more as they approach the edge of the frame.

Once again the wider our angle of field the more pronounced this will be. There is another distortion present in some systems which further affects verticals as they approach the extreme edge of the frame: the bending of lines

(Continued on Page 322)

FIG. 2—Example of well-placed camera setup for wide screen photography. Here distortion of the straight lines of the highway is minimized by shooting at a three-quarter angle

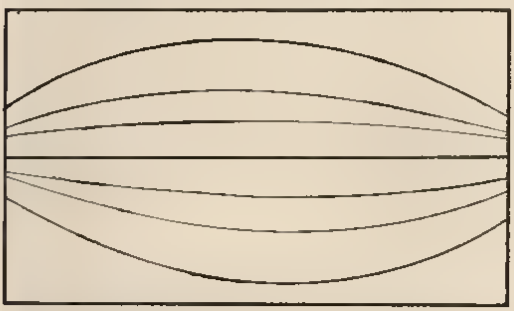


FIG. 3—How horizontal lines are bent when scene containing them is photographed straight on with extreme wide angle lens.

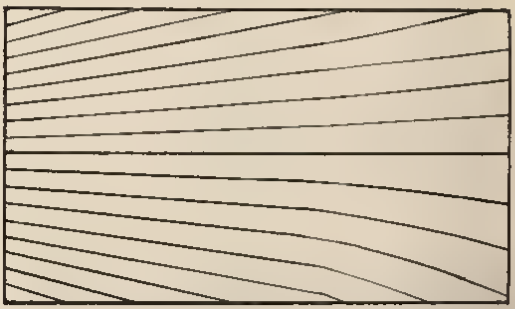


FIG. 4—When the same scene is shot with the camera placed at a three-quarter angle, the horizontal lines are bent only slightly

NEW CAMERA has shuttle-type movement with fixed pilot-pin registration, plus rack-over for animation work

The New Oxberry Combination 35mm/16mm Process Camera

May be converted in five minutes from 35mm to 16mm for either animation or optical printer work.

By VERN W. PALEN

A NEW COMBINATION 35mm - 16mm process camera, specifically designed to meet the most critical requirements of animation and optical printer work, has been announced by The Animation Equipment Corporation, New Rochelle, New York

Actually two cameras in one, the Oxberry unit is quickly converted from 35mm to 16mm merely by changing the lens, shuttle, sprocket assembly and magazine. Use of the camera for both film sizes eliminates the need for critical realignment as required when two cameras are employed on an animation stand or optical printer. Similarly, the camera can be supplied initially for use with either 35mm or 16mm film. Later, accessories can be obtained to accommodate the other film size.

The camera has a shuttle-type movement with fixed pilot pin registration. It has a rack-over mechanism for animation work. A socket drive accommodates portable and stationary stop-motion motors.

A hand dissolve mechanism on the front of the camera has a linear scale calibrated in 16 frames and 24 frames for cross dissolve (DX). The shutter may be set and locked at a designated opening such as ¼ shutter, ½ shutter, etc. Shutter opening is 170 degrees.

An automatic dissolve is operated through a dial selector on the side of the camera and has a range from 8 to 80 frames. Since the camera can be set quickly for dissolves of 8, 9, 10, 12 or any number of frames, this saves time on TV commercials and makes it unnecessary for the operator to leave his floor position. A two-position switch controls and indicates shutter position as to DX-in or DX-out. Camera dissolve action is started by a control button located on the control panel. When the correct number of frames are exposed, the dissolve mechanism disengages automatically.

The front of the animation camera is built to receive 35mm or 16mm Oxberry lens mounts. There are two available, one for hand focussing that is calibrated in feet and inches. The other is for automatic follow focus. It is a spring-loaded no-play mechanism, ball bearing mounted with a straight-line in and out movement for maintaining the optical center.

On the rack-over camera for 35mm film a 47mm focal length lens is used. A 25mm focal length lens is employed for 16mm film. On the rack-over camera, the shortest back focus of any lens cannot exceed 17/32 in.

The shuttle-type movement with fixed pilot pin registration provides positive action and rigid position during exposure and the special spring-loaded pressure plate will accommodate three negatives without adjustment. Shuttle is machined from a solid steel block having cast steel yokes with hardened faces. A standard silent film aperture is provided. A new feature permits it to be changed with other size apertures such as film strip, sound on left and sound-on-right. Apertures are quickly changed by merely removing four screws on the front of the shuttle. Shuttles are matched accurately for both film sizes to assure optical alignment.

The entire cam shaft is cut from one piece of steel and on it are three cams which activate the shuttle. One cam comes into play when the 35mm shuttle is inserted; another cam performs a similar function when the 16mm shuttle is used. A barrel cam operates the pressure plate on both.

Two rack-over systems are provided. One is operated by a lever which activates a no-shock movement that positions the view-finder directly over the lens. The other rack-over is controlled by an indexing knob which accurately shifts the camera to the correct location for sound on left or right and for exact

(Continued on Page 319)

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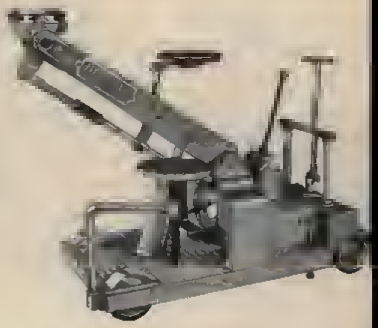

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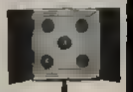
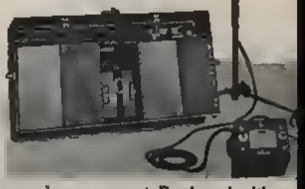


"A STUDIO IN A SUITCASE"



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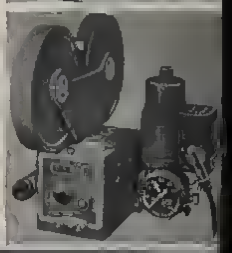

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Better Business Films, Faster

How to overcome one of the big bottlenecks in 16mm business film production by streamlining the script writer's procedure and increasing his efficiency and output with mechanical devices.

By TOM HOTCHKISS

PRODUCERS OF 16MM business films are complaining of "writer's cramp." They say they can't find enough skilled creative writers. Dearth of good writers in the field of the fact film appears to be one of the big bottlenecks in the industry.

It's another indication of the mushrooming growth of audio-visual media, emphasizing the overall needs for new trained members for the big and growing team of film makers.

The Society of Motion Picture and Television Engineers, Hollywood chapter, is conducting a course in "Elements of Sound in Motion Pictures," as one concrete effort to anticipate future personnel needs in that phase of production, and industry leaders are said to be planning similar courses covering other aspects of film making.

Manpower can be trained for most departments of motion picture production. Writers, however, seem to be born—not made—and the immediate answer to the problem seems to be s-t-r-e-t-c-h the available pool of writing talent. This can't be accomplished successfully with an anamorphic lens, but there are ways to multiply the efficiency of nearly any script writer for industrial and educational films, perhaps double it.

Writers have generally failed to gear themselves to the accelerated tempo of the other areas of film production. Even in many production companies other wise up-to-date, writers still function in a primitive, rustic manner, working in the midst of an ultra modern industry of new, technological advances.

Observing their methods, it is little wonder that these cloistered script writers are signalled out as the bottleneck in certain production companies. Their cumbersome systems of coordinating words to pictures exhaust needless days of precious "writer's time." A typical mode of operation may find the writer working between his sanctum and a review room. He runs the picture, makes notes, goes back to his bailiwick, repeating this routine time after time. When finished, his script seldom fits picture well enough to record narration without frenzied last-minute re-writing.

Films Afield, a small company of writers devoted exclusively to scripting for the 16mm business and educational screen, has successfully avoided this sort of extravagance of time by "mechanizing" its writers.

Problem confronting us: How to hand a writer a cut workprint, let him sit at a desk and, without roaming around, turn out a reasonably completed script, with scenes, timing, and text all assembled, ready for final editing and typing?

We harnessed our writers by developing a "writing cube," complete with synchronous projector and screen, with a counter for footage and time. The writer sits at an ample desk, working with typewriter or pencil. All controls are at his fingertips. He can forward, reverse, or stop the projector and its coupled footage-time counter.

It is here, in one consolidated operation, that the writer lays out his script, noting scene and time at the left, and sketching out his basic script on the right of the page. In many cases, by running the projector back and repeating a scene several times, he may actually bring the narration for that scene into final form the first time through the picture.

(Continued on Page 315)

TIME-SAVING shortcut proposed by author is to provide script writer with projection and recording facilities right in his own office. Here a Bell & Howell "202" magnetic recording projector is used for recording tentative narration on a business film work print.

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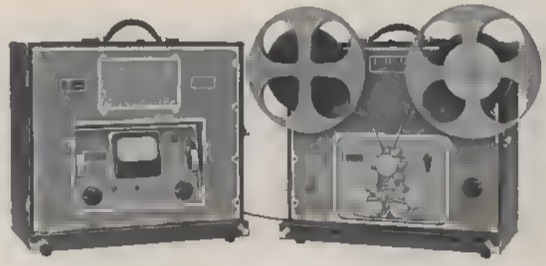

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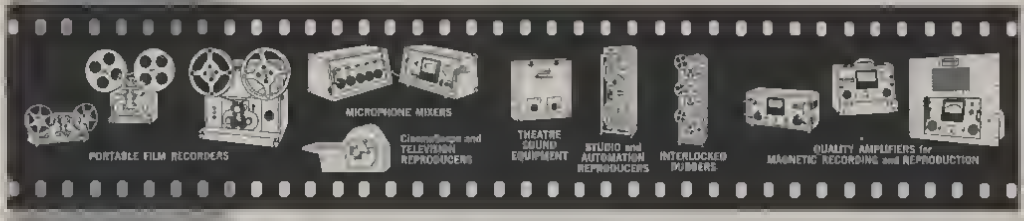

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FIG. 1—Front view of author's Multiple Input Electronic Audio Mixer, showing neat arrangement of controls affording easy manipulation

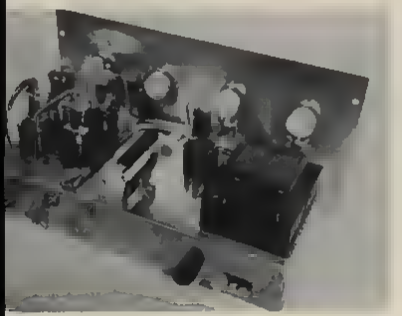

FIG 2—Rear view. Tubes and other chassis-mounted components are laid out for efficient circuit disposal and to afford shortest possible length of input leads.

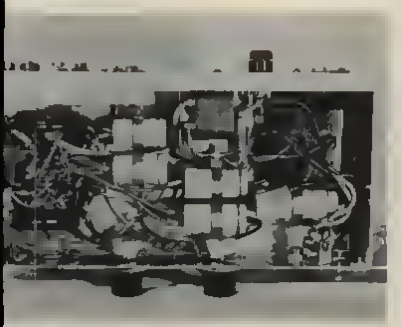

FIG 3—Bottom view. Heavy wires are single-conductor shielded microphone cable, as noted in text of article. The shielded input is seen in upper left-hand corner of chassis

Multiple Input Electronic Audio Mixer For Magnetic Recording

By DAVID D. BULKLEY

THE SERIOUS AMATEUR cinematographer rarely considers his films complete unless they have musical accompaniment and more than likely spoken commentary also.

Great technical strides in the magnetic recording art now provide the amateur with several means of obtaining synchronized sound accompaniment for motion picture films at a moderate expenditure in time and money. The more important means available to the amateur are: magnetic tape, stroboscopically synchronized (Revere "Synchro-tape") or mechanically synchronized (Tape recorder and silent projector mechanically connected by a flexible drive shaft) and magnetic striped sound-track-on-film, for projection on a magnetic sound projector (Bell & Howell, RCA, etc.). There also is an inexpensive magnetic sound adapter, the recently perfected "Cine-Sone," manufactured by the Foto Corporation of America, 40-27 24th St., Long Island City, N. Y., which may be easily attached to any 8mm or 16mm projector, and which projects magnetic-striped 8mm or 16mm film.

No matter what medium is used, the recording procedure is the same. The various musical selections must be inserted at the proper places in the film and must be blended as one musical selection concludes and the next commences. If a spoken commentary is used, each portion must be inserted at its location in the film and the music level must be reduced at the correct time. If sound effects are necessary to the film, they must be inserted and mixed with the music and commentary to round out the sound track. It is often desirable to record portions of the commentary, music and sound effects on a separate magnetic tape which is then cued and combined with the final sound

(Continued on Page 312)

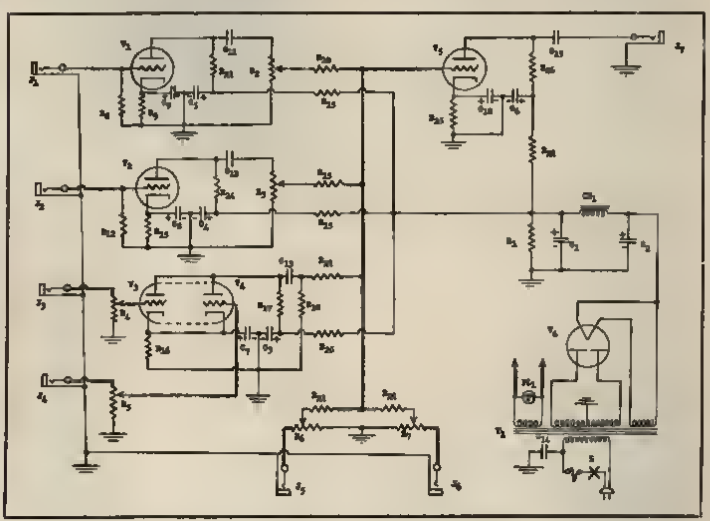

FIG 4—Circuit diagram of the Multiple Input Electronic Audio Mixer. Heavy lines indicate shielded wiring. (Diagram by author.)

PRESSING THE BUTTON is the simplest part of making movies But the films with enduring interest are those based on a plot—an interesting story line This, then, is where you really start to make movies

Home Movie Plots Are Where You Find Them

News items, cartoon strips, and magazine short stories offer a wealth of ideas for your film scripts.

By HAROLD BENSON

THE WEATHER'S perfect, the camera's loaded and your finger's itching to press the button. The only thing that's lacking is a plan The sun's out before you've got around to scriptwriting, and there's not a filmic idea in your head.

Don't imagine your alone It's a common enough cine affliction. But if you recognize it as an affliction, you're already on the way to recovery. Too many amateurs in this situation dash out and shoot without plan or purpose

"It'll all sort itself out on the cutting bench," they mutter as they make the most of the sun Somehow, though, it never does, and the final result is almost invariably several hundred feet of uncut, useless footage stored away under that tactful classification, "Stock Shots."

But however late you've left your preparations, there's one source of inspiration which never fails. Go through a single newspaper looking for plot ideas and you'll have enough material to keep you filming for the rest of the year.

Here's an example of what one page can hold, taken from the issue that's just flopped onto my mat. These items aren't complete synopses in themselves, of course, but a little imaginative pondering can soon transform them The questions in brackets suggest the most rewarding angles to follow in adapting each news item

A "Men Fight in Divorce Court." (Why? What was the woman's reaction? How did it end?) B. "Student She Would Not Wed Killed Model." (What made her refuse? How does he feel now?) C. "Six Months For Wounding Poacher." (What is the landowner's story?) D "Play Withdrawn After Five Performances." (Who put up the money? What are their plans now?)

There's one great danger in tackling scripts in this way. Unless you're careful your plot line can degenerate into a series of gimmicks, each added for effect rather than for its relevance to the situation After all, newspaper stories are bound to have a certain freakishness about them It's only out-of-the-ordinary happenings which make news

You can safeguard your plots against the unforgiveable sin of contrivance by restricting yourself to subjects and situations which seem to you to have an important significance In other words you should always feel *moved* to make a film, whether it be romance, drama or even comedy.

It's not enough merely to believe that your subject has the makings of a good film You must have something to say, something to communicate about that subject. This is where your treatment of such items as those outlined above is of vital importance.

Reading the four stories below the headlines you might be (A) appalled at the woman's behaviour, (B) moved by the hopelessness of the student's infatuation, (C) indignant at the landowner's callousness and (D) amused at the blow dealt to the conceit of a businessman who financed his own play If so, you already have the basic material of two dramas, a love story and a comedy.

But perhaps none of these stories hold any real interest for you Turn the page of the newspaper, and you're confronted by the comic strips. Nothing here that could make a film? Nonsense! Strip cartoons can frequently suggest not only stories but camera angles, compositions and even editing juxtapositions which heighten the excitement of a narrative

The most rewarding strips for the silent film maker are those which use no words, for here the visuals often correspond astonishingly close to a sketched shooting-script, like a story board The light-hearted day-to-day domestic cartoons can suggest dozens of amusing incidents for a family comedy.

The strip before me, for instance, shows a young wife trying on a new dress. She dashes into the bathroom to show it off to her husband He responds by blindly groping

(Continued on Page 318)

CLOSE YOUR EYES...dream into our picture all the brilliant, living colors you can imagine...

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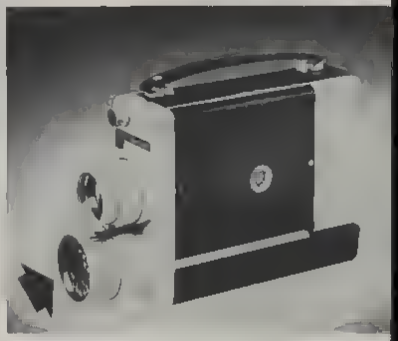
NO MATTER WHERE you put the lights, on a stand or on the camera, your subjects can move about freely and you'll still get perfectly-exposed movies with the new Bell & Howell automatic camera with the "electric eye" that continuously adjusts the lens diaphragm for correct exposure



ARROW POINTS to "electric eye" that "reads" the light and automatically sets the lens diaphragm

Bell & Howell Introduces First Automatic Movie Camera

Built - in "electric eye" automatically adjusts the lens iris to varying indoor or outdoor light conditions for a wide range of film speeds.

By JOHN FORBES

A CINE CAMERA with an electric eye which automatically sets the lens for perfectly exposed movies has been announced by Bell & Howell Company Chicago.

The lens of the new model 200-EE, a 16mm magazine camera for the amateur operates on the same general principle as the human eye A photo electric cell, or electric eye, opens and closes the lens iris automatically to adjust to varying indoor or outdoor light intensities This solves the trickiest problem of movie making, the difficulty of determining the proper exposure For the first time the complete novice can press the starting button and shoot movies, confident that his film will be properly exposed

Although several European cameras have built-in coupled exposure meters, they require that the user manually adjust the lens iris until a pointer in the viewfinder matches with an index mark. In contrast, the 200-EE lens iris *moves itself* automatically to the proper opening and continues to do so whenever changing light conditions require it

Another "first" is the camera's ability to signal the photographer when the light becomes insufficient for good movies A warning flag remains in the viewfinder until there is adequate light for proper exposure

"Automating" movie making is only one of the 200-EE's contributions to photography. Because the lens adjusts to changing light during filming, the photographer can follow a subject from deep shade to bright light without stopping to change the exposure, a feat virtually impossible with any other camera For example, children at play may run from sunshine to shade; At a baseball game the batter may be shadowed by the grandstand, while first base is bathed in sunlight A swimmer may emerge from the water and head for a beach umbrella. As the camera follows the action, the lens automatically accommodates itself to the changing light at the rate of one f-stop per second.

The 200-EE is a completely automatic camera But it is also fully versatile and may be operated without the electric eye

to deliberately under-or over-expose a scene for special effects.

For simplest operation the camera can be set at ASA 10 and 16 frames per second, the most commonly used film and camera speeds. (The photographic dealer will lock the camera barrel in this position, if desired. It can be unlocked at any time.) The lens can be set at universal focus for most shooting. However, the camera is automatic at any camera speed or ASA film rating.

The 200-EE takes quick-loading magazine film. Drop in the film magazine, aim the camera and shoot by pressing the starting button inward and down. (Pressing *inward* momentarily before pressing down sets the lens *before* any film is exposed. Then as you press down, the iris control will continue to change the lens setting as the light changes.) Your film (either black-and-white or color) will be properly exposed as long as there is sufficient light for photography.

If you wish to under- or over-expose a scene for special effects, the photoelectric cell may be deactivated. To determine the proper exposure, press the starting button directly inward until the lens stops turning. This operates the automatic exposure control without exposing film. Then deactivate the control and set the lens for the desired under- or over-exposure. The iris motor control current may be deactivated by pressing the starting button down by sliding a fingernail in the release button groove. This exposes film but avoides the slight inward thrust which activates the iris control in normal use.

The use of Mylar iris blades for the first time in a motion picture camera offers the latest in advanced improvement in optical iris construction. Because they are corrosion resistant, not affected by temperature or humidity change and, in effect, inert, they are extremely durable and precise.

The fast 20mm f/1.9 lens has a focal length of about 4/5 of an inch. The shorter focal length (compared with the conventional one-inch lens for 16mm cameras) offers two important advantages:

(1) The lens has more inherent depth of sharpness.

(2) It covers a wider angle of view, "sees" 56% more of a given scene than a one-inch lens.

The lens is carefully adjusted to the particular camera on which it is permanently mounted.

A 2½-X telephoto attachment gives the equivalent of a 2-inch f/1.9 field, and a 0.63-X wide angle attachment gives the equivalent of a ½-inch f/1.9 field.

The viewfinder objective is interchangeable so that a standard Bell & Howell 2-inch objective may be used with the telephoto attachment and a ½-inch objective with the wide angle attachment.

The life of the six tiny batteries which operate the automatic exposure control is equivalent to 175 fifty-foot film magazines, or a year if the camera is used only occasionally. Replacement batteries may be purchased from Bell & Howell photographic dealers at a cost of about $3 for a set of six.

(Continued on Page 326)

THIS SERIES CLIPPED from 16mm film illustrates the light-adjusting qualities of the new Bell & Howell 200-EE camera.
The frames in the strip at left were taken from a sequence shot with a conventional camera. Faced with changing exposures in a continuous scene, the photographer set his lens midway between the lightest and darkest areas, illustrated by the properly exposed frame at the bottom. The preceding frames are under-exposed and the following frames (not shown) are over-exposed.
In the strip at right, taken with the 200-EE camera, the lens automatically set itself at the beginning of the sequence and adjusted for the gradually increasing light as the camera followed the subject. All frames are properly exposed.

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ELECTRONIC MIXER

(Continued from Page 307)

track This latter procedure provides an efficient and split second means of inserting specially recorded portions at the exact spots they are needed in the film

These operations may sound like an imposing and complex task, but they become a simple procedure when a flexible, properly-designed audio mixer is used An audio mixer consists of a means of adjusting the individual volume levels of two or more audio inputs so that several sound sources may be combined or "mixed" at the output to achieve an organized and properly balanced blend of the desired sound for recording as the sound track.

Various types of mixers are available which provide facilities for different applications The simplest type is what might be called an 'electrical' mixer which consists of several potentiometers (volume controls) connected in parallel. This type leaves much to be desired for it is not only inefficient but capable of accepting only inputs of similar levels. Additionally, it frequently is prone to interaction between inputs. The more elaborate type of mixer contains vacuum tubes that provide efficient isolation and proper input and output impedance match. Those available commercially often lack sufficient inputs; they are also rather expensive The electronic type of mixer is, of course, the most desirable one to use for mixing operations.

The mixer unit described here provides the home movie sound recordist with a complete instrument for efficient blending of a number of different audio inputs. It employs conventional vacuum tubes and simple straight-forward circuits and has a self-contained transformer-operated power supply; it offers virtually the ultimate in a dependable, rugged, inexpensively constructed unit, and one which almost any reader who follows the diagram and instructions, can put together himself.

In the interest of flexibility, six audio inputs are provided. two high-impedance microphones, two tape recorders and two high-impedance phonograph pickups. An output designed for matching various tape recorders or magnetic sound projectors assures high quality sound recording. All inputs may be operated simultaneously with no interaction whatsoever and each individual input may be varied independently of all others. No master output volume control is provided inasmuch as the sound track recording level is normally adjusted on either the tape recorder or magnetic projector prior to recording

Figure 1 is a general view of the front panel of the mixer showing the neat, well-balanced appearance with controls disposed for easy manipulation The six volume or gain controls are easily identified. The on-off power switch (S_1) is on the lower left with a small pilot light (PL_1) next to it The output plugs are in the lower right hand corner. Two types of output plugs are connected in parallel: a standard phone plug and a Jones type socket, although the latter may be omitted if not needed

Figure 2 is a three-quarter view of the rear and top of the mixer chassis The power supply is on the right with its power transformer (T_1), bleeder resistor (R_1) and rectifier tube (V_6) visible The left side of the chassis contains the two 6F5 GT (V_1 and V_2) microphone input tubes on the rear edge, the 6C5 (V_3) output matching tube on the left adjacent to the panel while the 6SN7GT tape recorder input tube a dual purpose tube (V_4 and V_5) is to the right of the 6SN7GT The rear of the chassis contains the two microphone connectors (J_1 and J_2) at the left (these can be replaced with phone jacks if that type of connector is more convenient), two phone plugs for the tape recorder inputs (J_3 and J_4) next to the right, followed by two phonograph input jacks (J_5 and J_6). The a-c input connector is mounted at the extreme right with the line fuse next to it.

Figure 3 is a bottom view of the mixer showing the general wiring layout Neat, logical layout of wiring results in compactness and ease of access during construction.

Audio equipment is, generally speaking, less critical as to constructional layout than equipment operating at radio frequencies. However, certain precautions should be observed to assure a hum-free, clean, crisp output signal Inasmuch as this unit operates with comparatively low-level audio signals, all signal-carrying circuits are wired with shielded wire

Although this mixer was constructed with a vertical front panel, it could very easily be replaced by a sloping front "console" type of panel such as is used for public address equipment.

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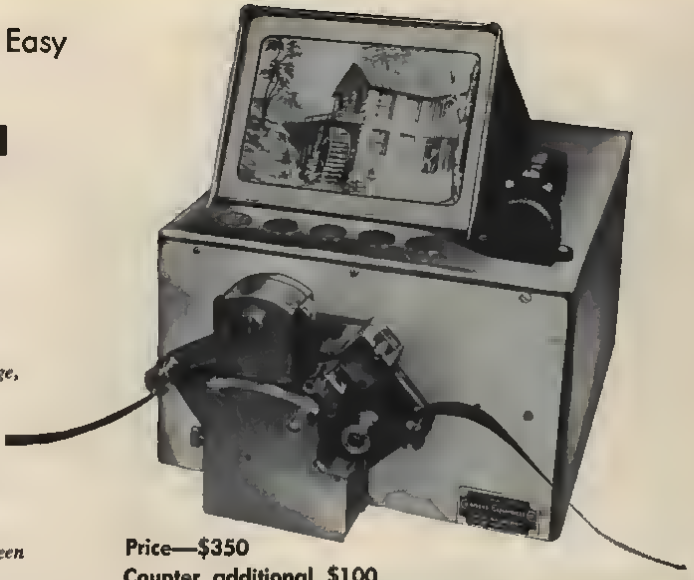

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Layout of the various gain controls, on the 12 x 6 inch aluminum front panel, is left to the constructor's requirements and desires. The top and rear portions of the chassis may be laid out on an aluminum chassis 11 x 5½ x 2 inches, approximately as shown in Figure 2.

Wiring is very straight-forward and components should be soldered in place neatly and securely, using a hot soldering iron and rosin-core solder. Where possible, the capacitors should be mounted on the chassis with the brackets supplied, resulting in more rugged mechanical construction. The power supply bleeder resistor (R_1) is mounted on a bracket, off the chassis and away from the tubes, for this resistor becomes warm during operation.

Here an important point must be stressed: single-conductor shielded microphone cable is suggested for all leads shown shielded (enclosed by dotted lines with ground symbols) in the schematic diagram.

When wiring the electrolytic capacitors into the circuit, make certain that the negative or minus (—) side of the capacitor goes to ground.

Ground connections are made to insulated terminal brackets which are connected to the chassis at only one point. This will eliminate any possibility of spurious low frequency oscillations being generated which might

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record as "hash" on the magnetic sound track

After all wiring is completed double check each lead to make certain that all connections are correctly wired and are securely soldered in place.

The power switch may now be turned on; all tube filaments should light reasonably promptly. A pair of earphones may be plugged into the output phone jack for test purposes. Each microphone input may then be tested with a crystal or other high impedance type of microphone. Next, test each tape recorder input in a similar manner by plugging in any standard tape recorder to the appropriate input. Use a good pre-recorded tape for this test. Finally, test the phonograph inputs by using phonograph turntable(s) with crystal type pickup(s). Low level (variable reluctance, etc.) pickups may be used with this mixer but require their own individual pre-amplifier stages. Such pre-amplifier stages were not incorporated in this mixer as their addition would have made the unit more complex than necessary; pre-amplifiers are ordinarily mounted on the same panel with the dual-turntables so they may be close to the low-level phonograph pickups with which they operate.

After all the individual inputs have been separately tested, several inputs may be connected and the blending or mixing of several inputs may be checked.

The mixer is now ready for application to all recording tasks at hand. It will be found that the mixer will provide flexible, smooth-as-silk operation with excellent audio quality, well within the recording capabilities of the various magnetic recording mediums for which it was designed.

The writer would like to thank Martin E Robertson for his assistance in the construction of this mixer, and for his valuable assistance in making the necessary tests to ascertain the full capabilities of this instrument.

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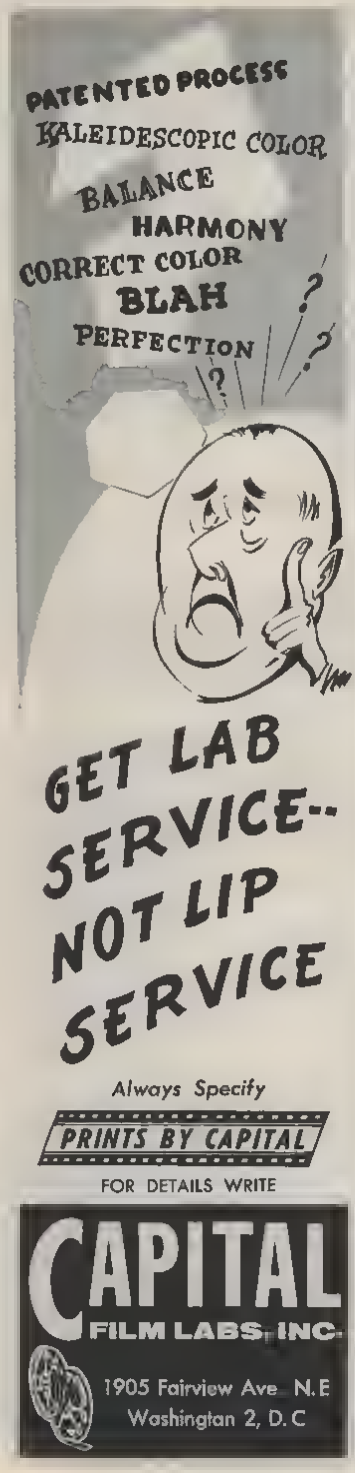
R_8, R_{32}	—3.9 meg	½ watt
R_9, R_{33}, R_{35}		
R_{30}, R_{36}, R_{38}	22 K	½ watt
R_{37},		
R_{39}, R_{34}	—100 K	½ watt
R_{24}, R_{44}, R_{21}		
R_{25}, R_{16}, R_{19}	—560 K	½ watt
R_{14}	—1.5 K	½ watt
R_{17}, R_{20}	— 47 K	½ watt
R_1	—100 K	20 watt Ohmite "Brown Devil"
R_{28}, R_2, R_3, R_7	—500 K	potentiometer—Mallory "Midgetrol"
R_5, R_{13}	— 50 K	potentiometer—Mallory "Midgetrol"
C_{23}, C_{31}, C_{37}	—.1 mfd.	600 v paper
C_{28}	—.02 mfd	600 v paper
C_{34}	—.01 mfd.	200 v. paper
C_7, C_9, C_{11}, C_{26}	—10 mfd	50 v Sprague "Atom" midget electrolytic
C_{29}, C_{41}, C_{43}, C_{44}	— 8 mfd	450 v Sprague "Atom" midget electrolytic
C_{12}, C_{13}	—16/8 mfd	450 v. Sprague "Atom" midget electrolytic, dual electrolytic
CH_1	Filter Choke 8 Henry 75 ma Stancor C 1355	
T_1	—Power Transformer	520 v 90 ma CT Stancor PC 8404 5 v. rect. 6.3 v 3a. fil.
J_1, J_2	—Amphenol 75-PC 1 M Microphone Chassis receptacle	
J_3, J_4	—Shielded phono pin jacks	
J_5, J_6, J_7	—1 CA type 1870 miniature phone jacks	
J_8	—Jones flush type chassis socket type S 303 AB w/Jones plug P303 CCT (may be omitted)	
S_1	—On-off toggle switch	
PL_1	—Dialco Series 810 6 v pilot light assembly w/"blue bead" bulb	
F	—Buss HKP fuse mount (Type 3 AG 125 v. fuse 2 amps)	

1—Power cord and flush mounting male chassis connector
6—National Type HRS-3 knobs o 10, 300°
5—Octal tube sockets
2—Tube grid caps

Vacuum Tubes:

V_1, V_2	2—6 F 5 G T
V_3	1—6 S N 7 G T
V_4	1—6 C 5 G T
V_5	1—5 Y 4 G T



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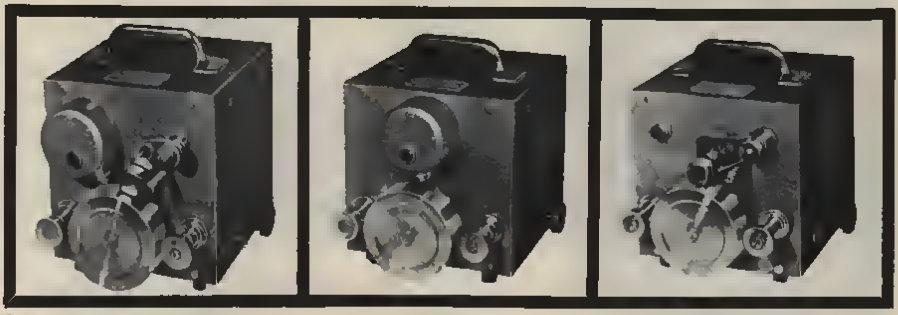

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BETTER BUSINESS FILMS

(Continued from Page 304)

He not only gets exact timing and footage, but by seeing the picture as he writes, he is able to key the script very closely to important sections—something very important in many films. Later re-writing time is saved, because the writer can make sure his script is neither too long nor too short for a given scene. Producers are amazed to find that words and pictures "sync" so perfectly the first time the narrator reads the script.

Portable tape recorders have proved invaluable for reducing script writing time. Frequently, we are faced with writing highly technical training films. With the workprint in its final cut form, we run off the picture and stop it after each scene. Then, a panel of experts supplies the scene description and technical data required. We proceed through the film, scene by scene, recording the salient points to cover each shot. As one company executive said, "Only a writer can say it right," so these tape recorded comments, double-checked by experts for accuracy and terminology while they are recorded, are edited and re-written for smooth readability by the writer. *(Continued on Next Page)*

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In this case, the writer uses an additional control for starting, stopping, and reversing a ¼ inch tape recorder. He views a scene on the screen, stops the projector, listens to the taped description; repeats the operation as required. In this way, at one sitting, he may produce a finished technical film script which might require days if written by traditional methods. Re writing and correcting are almost precluded, and in most cases the script is ready for recording as delivered.

This "writing from tape" system affords maximum speed Scripts for all types of 16mm films have been turned out by this method, from travelogue pictures to medical movies.

Taped comments may be rambling and loquacious, but they provide all the skilled writer needs for the finished narration script Experience proves that picture information secured by the tape method is much more complete than when it is supplied in written form, and those assigned to the job of assembling such information all agree that the tape system is far easier than organizing the material on paper Proper pronunciation is also determined on the tape, something that must always be checked later, before recording, when the technical information is supplied in writing.

Many 16mm producers are living the myth that writers' temperaments are incompatible with all the mechanical contrivances of film making, and that they must be sheltered from anything as boorish as a time-saving mechanism Not so! Any writer suited for scripting business films will welcome liberation from a primitive status He will produce a greatly increased volume with fewer headaches for himself and everyone else when the "mechanical revolution" comes belatedly to his craft.

PLASTIC BLIMPS

(Continued from Page 297)

Model 200 magazine cine camera, the Eastman Cine-Royal, the Bolex H-16, and for the Arriflex 16mm and 35mm cameras.

Klein's underwater housings for cameras meters and lights are used by the U S Navy, American and foreign oil companies in undersea exploratory work and by professional underwater photographers on national magazine assignments

The housings for the Bolex H-16, B & H 200, Cine-Royal, and Browne are made of optically-correct Plexiglass and have watertight fittings of patented design, plus the facility for quick removal of camera by simply unscrewing two knurled nuts. Convenient external controls enable the cameraman to wind the motor spring and control the shutter release. Additional controls for setting lens focus and aperture are optional.

In addition to the Plexiglass housing for the Bolex H 16, there is a cast aluminum model which features a self-contained, battery-driven motor for the camera External controls are provided for stopping and starting motor, focusing and setting lens aperture. Weighing 41 pounds out of water, the case weighs but half-a-pound underwater and is pressure-safe to a working depth of 150 feet.

Housings for the 16mm and 35mm Arriflex cameras are also of cast aluminum, provide all external controls plus facility for using the cameras' well-known reflex focusing viewfinder. Both housings have been tested in actual use at 100 feet below the surface without pressurization.. Weight of each above surface is 31 pounds, and approximately four pounds negative below

Klein has selected the name of a dangerous, deep water shark, Mako, as the trade name for his photographic products. The 30 year-old van dyked underwater expert, who occasionally takes time out from his business to go on a shark "seafari," has also named his 80-foot PT boat the "Mako." The craft, which he converted for underwater photography and spearfishing, has a unique ladder that permits descent of underwater photographers directly into the sea, on the port side is a place for cameras, housings, light meters, tripods, and sound microphones; and on the opposite side, compartments for the air compressor, undersea breathing units, tanks, fins and weighted belts.

When Klein goes underwater to take pictures he prefers the waters of the outer islands of the Bahamas or east of the Florida Keys where the reefs are overflowing with marine life and the water is spring clear That is where he always heads the Mako when he is shooting film strips for himself, or movies for national television programs or amateur cinematographers on vacation charter trips.

Marine biologists say that the waters from Fowey Reef to Dry Tortugas, just east of the Keys are the only waters within the continental shelf of the United States that have such luxuriant reefs. This section contains the unusual mixture of Atlantic coast and West Indian fish and plant life Here are to be found tropical butterflies, rock beauties and angel fish as well as dolphin, bonita and snapper, all excellent subjects for underwater movie making.

The explanation is found in the fact that the Gulfstream waters are warmer than waters usually are at the southern

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latitudes of the United States. This means that fish and plant life that usually abound only in warmer waters farther south, are able to thrive here.

Usually, this phenomenon is confined to the coral belt of Australia, particularly where the Great Barrier Reef extends 1,200 miles into the Pacific. There also are prominent areas in the Indian Ocean and Red Sea. But the only coral belt in the continental waters of the United States is in southeast Florida.

The Caribbean area farther south is even superior to the waters off Florida as far as abundance of marine life is concerned. Klein has also photographed such spots as Eleuthera, Andros Island and Spanish Wells, all among the outer islands of the Bahamas east of Nassau. He also works at Silver Springs, Weekiwachee and Wakulla Springs on the mainland of Florida.

But, whether he shoots in a Florida spring or in the middle of the Gulfstream, the same underwater problems prevail, he says. The sun must be shining and the water must be relatively clear of particles of sand. Often by the time a photographer lines up his scene, steadies his tripod on the floor of the sea, the sun has moved behind a cloud. Or, the movement of the actors and directors and equipment has stirred up the sand so much that the water is no longer clear enough for photography.

Then, by the time the sand settles and the sun comes out again, the air supply tanks may be emptied and it is time to return to the surface for replacements—and start the descent over again. But the results make the obstacles worth overcoming. Shooting under water for the amateur need not be such a tedious experience.

"The problems of sand disturbance caused by the use of tripods may be eliminated by shooting as you swim, with the camera hand-held," said Klein. "There are hundreds of spots in the outer Bahamas where even just a mask and snorkle will suffice for taking pictures in waters 10 feet deep."

Underwater photographers do not have to use self-contained breathing equipment and go into the deeper realms. Instead, they may photograph with their head under water, near the

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surface, breathing through a snorkle

Klein has shot more than 200,000 feet of underwater movies in black and white and color as well as related still publicity shots, during the past three years. He filmed the television promotion for Life magazine that preceded the issue containing the story on "Twenty-thousand Leagues Under the Sea." He also filmed a series of 13 shorts for a national television program.

Klein also designs custom water-tight cases for other cameras, still or cine. The standard line of cases previously mentioned are on sale in many camera stores, also in shops catering to the skin diver fraternity This could mean that we shall soon see some really startling underwater movies on TV and theatre screens, once professional skin divers add movie making to their fascinating submarine activities.

HOME MOVIE PLOTS

(Continued from Page 308)

for the towel—and drying his face on the edge of the dress! This is certainly not a strong enough situation to carry even the shortest of films, but it could be justifiably introduced into many domestic comedies without any difficulty.

The next page of the paper is perhaps the most invaluable of all to a movie maker in search of a subject. It contains the personal column of small ads, an unfailing source of stories. Despite the invasion of thinly disguised commercial advertisements, the personal column of my paper never has less than a dozen announcements which indicate an interesting anecdote behind their terse offers or requests.

"Lost, white miniature poodle, 6 years old. Reward given for information leading to his return." Was the dog a child's favorite pet, an old maid's idol, or a present to a girl from her boy friend? Is it lost, stolen or strayed? What happens to white miniature poodles alone in a city?

"A family, 3 adults, 5 children, seeks seaside accommodation, 2 weeks July/August Reasonable terms." With so many seaside hotels clamoring for business, why does this family have to advertise? Did they leave their peak month booking too late? If so, why?

"Obliged dispose exquisite dark Canadian mink cape stole. Offers please." Whose decline does this record? What happens if there are no offers? What's the story behind the mink?

By putting two advertisements together you can even get inspiration from such unpromising stuff as "Old floors sanded and polished." Match it with, say, "All About Your Wedding—the complete guide to etiquette and procedure," and you're well on the way to a rip-roaring farce.

The gossip pages are generally too personality-ridden too provide anything sufficiently meaty for a script. But occasionally you'll find an anecdote which might be just as amusing or dramatic if it concerned the hero of your next production.

If your paper runs a short story, this might seem the most obvious choice of all for plot material. But beware! Quite apart from all questions of copyright and obtaining author's and publisher's permission, it's rare that a story written solely to be read can be satisfactorily adapted to suit the screen by an amateur, especially for silent production.

Literary and filmic form seldom coincide. A writer is frequently so concerned with description, unexpressed thoughts and hidden motivations that his work has nothing in common with film requirements, where action and movement are of primary importance. So it's best to direct your attention towards the news paragraph, the cartoon and the advertisement rather than attempt an adaptation which all too often heats even an experienced professional

After all, remember that the success of your search depends not on the peculiarity of your material—the journalist's bread and butter—but its potential power of moving or amusing your audiences. If your theme doesn't make you happy, angry or sympathetic, you've little chance of arousing any such emotion in those who are going to see your film So welcome the countless suggestions made every morning by every page of your newspaper—but question your emotional response to every one of them

MOBILE CAMERA SHOTS

(Continued from Page 295)

middle photo Here it was desired to get a shot of two stage drivers as important dialogue was being recorded It was a reverse-angle shot, with the camera "looking" over the shoulders of the driver and his companion and down toward the horses.

We had a choice of two methods for making this shot: (1) using the regular stage coach with the camera mounted on top of it, or (2) by the method shown in the photo To have followed the first method would have resulted in a very "ragged" shot due to unsteadiness of the stage coach—even when driven on a paved highway So the second choice was an easy decision.

The idea was suggested by one of

"THE FASTEST GUN ALIVE"

A Metro-Goldwyn Mayer Production

Black and white—185/1 Aspect Ratio

Directed by: Russell Rouse
Produced by: Clarence Greene
Photographed by: George Folsey, ASC
Story and Screen Play by: Frank Gilroy

THE CAST

George Temple ..... Glenn Ford
Dora Temple ..... Jeanne Crain
Vinnie Harold ..... Broderick Crawford
Eric Doolittle ..... Russ Tamblyn

(Picture is scheduled for general national release after July 6, 1956.)

our grips, and it found ready acceptance with director Russell Rouse. Indeed, the incident is just one of many which illlustrate the unusual cooperation director Rouse inspired in the whole technical crew. He continually demonstrated a refreshing appreciation for the other fellow's viewpoint and suggestions, which paid off in a number of ways and made his initial M-G-M directorial assignment a highly successful one.

As shown in the photo, a parallel was erected over the cab of the camera car on which the camera was mounted and set at the desired angle. On the forward platform of the car, another parallel was erected, using demountable tubular sections, and on this was placed the spring seat from the stage coach Also attached to the front of the car was the regular assembly of wagon tongue, singletrees, traces, etc., from the coach. The two teams of horses were harnessed up and handled by the drivers in the same manner as when drawing the stage coach The camera car utilized its own power for travelling, but maintained just enough drag on the horses to give them the "feel" of pulling the weight of the coach.

The shots we made with this setup, of course, were without benefit of any booster lights, as movement of the horses and vehicle was always compatible with the existing sunlight. Whenever we had scenes to stage late in the day or where some shadow fell across the path of travel, fixed booster light was supplied either by arc lamps or sunlight reflectors.

In order to point up the desolate terrain over which the three desperados travel between the two small towns mentioned in the synopsis of the story above, it was decided to photograph a substantial part of their trek from overhead, with the camera mounted in a helicopter. It isn't always practical to make straight down shots from a helicopter because the great turbulence of air churned by the craft's propellers belies its use by the obvious manner in which trees, grass, shrubs or water surfaces are agitated by the great down draft of air. But our action was staged on extremely rugged terrain entirely barren of growth.

The third photo shows the manner in which the Mitchell camera was mounted on the 'copter. A sturdy scaffolding that extended from one side of the craft was bolted to its frame. On this was mounted a conventional hi-hat, and the camera and head mounted upon it. With an experienced operator at the controls of a craft such as this, it is possible to secure far better photographic results than when photographing from a plane. In addition, we were able to zoom down upon our subjects for some startling pictorial results.

None of the mobile equipment I have described above is new or unusual. Yet, each time anyone of the units is used, there invariably are new problems to solve—some new switch in procedure made necessary by the particular production or the scene at hand. So, almost invariably the use of such equipment presents a new and interesting challenge —an opportunity, perhaps, to apply it in a new way; to obtain some new result not previously accomplished. I think that our application of the Chrysler camera car to the stage coach sequence is a good example of this.

In reviewing this production on the screen, the observant photographer, I believe, will note the versatility of camera technique and the wide range of ways in which the camera has been employed to achieve new and interesting pictorial results.

NEW OXBERRY CAMERA

(Continued from Page 302)

center for film strip. The reason for this is that the camera goes forward for live action direction in work with puppets and miniatures, whereas it operates in reverse for animation.

The rack-over viewfinder with ground glass focussing is mounted on the hinged-door side of the camera. The eyepiece faces the operator when the camera is on the animation stand. A new optical system rectifies the subject so the image is erected and copy may be read from left to right.

The superimposure viewing device facilitates composing and focussing It has a reticle plate and two registration pins which are identical with those of the shuttle This permits a frame to be located precisely on a designated section of the animated or projected image in conjunction with cross-haired ground glass. The image plane of the film when racked-over is the same as the film plane in the shuttle. When a light is placed in the eyepiece, the image may be project-

(Continued on Page 322)

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Photographic Assignments

APRIL • 1956

Who, where and what the industry's cameramen were shooting last month

ALLIED ARTISTS

• HARRY NEUMANN, ASC, "House oo Look out Mountain," with Bill Elhott and Kathleen Case Edward Bernds, director, "Chasing Trouble," with Huntz Hall and Stanley Clements George Blair, director

• JOHN J MARTIN, ASC, "Yaqui Drums," with Rod Cameron, J. Carroll Nash and Mary Castle Jean Yarborough, director

AMERICAN NATIONAL

• JOHN MESCALL, "TV Readers' Digest," TV Various directors

• WILLIAM A. SICKNER, ASC, "Medic," TV, (Medic TV Prods.) with James E. Moser, Frank La Tourette, and Virginia Martindale James E. Moser, director

• CURT FETTERS, "I Led Three Lives," TV, (Ziv TV with Richard Carlson Herb Strock, director· "The Man Called X," TV, (Ziv TV) with Barry Sullivan Eddie Davis, director "Science Fiction Theatre," TV, (Ziv-TV) with Ruth Hussey and Wayne Morris. Herb Strock, director

• KENNETH PEACH, ASC, "On Guard," TV, (Strategic Air Command, shooting at March Field) Harold Daniels, director

CALIFORNIA STUDIOS

• FLEET SOUTHCOTT, "Gunsmoke," TV, (Filmaster Prods. Inc.) with James Arness and Dennis Weaver. C. Marquis Warren, director

• WALTER STRENGE ASC, "Alarm," (Roland Reed Prod.) William Claxton, director.

• JOSEPH BIROC ASC, "Cavalry Patrol" TV pilot, (Filmaster Prod Inc.)- C. Marquis Warren, director

BILTMORE STUDIOS (New York)

• J BURGI CONTNER, ASC, "The Goldbergs," TV, (Guild Films) with Gertrude Berg, Robert Harris and Eli Mintz. Marc Daniels, director, "I Spy," TV, (Guild Films) with Raymond Massey. William Berke, director.

COLUMBIA

• GERT ANDERSEN, ASC, Ford Theatre, TV, with Ruth Roman and Philip Carey. Sidney Miller, director

• HENRY FREULICH, ASC, "Reprisal," (Technicolor with Guy Madison, Felicia Farr and Kathryn Grant George Sherman, director

• BURNETT GUFFEY, ASC, "Night Fall," with Aldo Ray and Anne Bancroft. Jacques Tourneur, director

• BEN KLINE, ASC, "Shakedown on Biscayne Drive," with Lee J. Cobb, Edward Arnold and Patricia Medina. Fred F Sears director

• RAY RENNAHAN, ASC, "Guns of Fort Petticoat," (Brown-Murphy Pictures, Inc.), with Audie Murphy George Marshall, director

• KIT CARSON, "Father Knows Best," TV, (Screen Gems) with Robert Young Jacques Tourneur, director.

• CHARLES LAWTON, ASC, "Celebrity Playhouse," TV, (Screen Gems) with Sterling Hayden. James Nilsen, director

WALT DISNEY

• CHARLES BOYLE, ASC, "Westward Ho, the Wagons," (CinemaScope & Technicolor) with Fess Parker, and Kathleen Crowley. William Beaudine, director

• GORDON AVIL, ASC, 'The Hardy Boys," TV Charles Haas director

FILMCRAFT STUDIOS

• VIRGIL MILLER, ASC, "You Bet Your Life," TV, (Filmcraft Prods.) with Groucho Marx Robert Owan and Bernie Smith, directors.

FLYING A

• BILL BRADFORD ASC, "Buffalo Bill, Jr.," TV, with Ockey Jones and Pappy Cheshire. George Archinbaud and Frank MacDonald, directors; "Annie Oakley," TV, with Gale Davis George Archibaud and Frank MacDonald, directors.

JERRY FAIRBANKS STUDIO

• JERRY FAIRBANKS, Oldsmobile Academy Awards commercial, TV Jerry Fairbanks, director

FOX WESTERN AVENUE STUDIOS

• SAM LEAVITT, ASC, 'Knight of the South Seas,' TV, (Lorena Prod.) with Jon Hall Elmo Williams, director

GENERAL SERVICE STUDIOS

• ROBERT PITTACK, ASC, "Private Secretary," TV, (Chertok TV, Inc.) with Ann Southern, Don Porter and Ann Tyrrell Oscar Rudolph, director

• HARRY WILD, ASC, "Burns & Allen Show," TV, (McCadden Prods.) with Gracie Allen and George Burns Frederick deCordova producer director, Carnation & B F Goodrich commercials, TV Frederick deCordova, director, "Bob Cummings Show," TV, (Laurmac Prods.) with Bob Cummings and Rosemary OsCamp Rod Amateau, director Winston commercials, TV. Rod Amateau, director

• JAMES VAN TREES, ASC, "The People's Choice," TV, (Norden Prods.) with Jackie Cooper and Pat Breslin Jackie Cooper, director.

• NEAL BECKNER, "The Adventures of Ozzie and Harriet," TV, (Stage 5 Prods.) with Ozzie, Harriet, David and Ricky Nelson Ozzie Nelson, director.

GOLDWYN STUDIOS

• LEE GARMES, ASC, "The Sharkfighters, (CinemaScope & Color) (Samuel Goldwyn Jr. Prods. UA release) (Shooting in Cuba) with Victor Mature and Karen Steele. Jerry Hopper, director.

• WILLIAM WHITLEY, ASC, "Crossroads," TV, (Federal TV, Inc.) with Rod Cameron, Ralph Murphy and other directors.

• GEORGE CLEMENS, ASC, "Schlitz Playhouse of Stars," TV, (Meridian Prods.)- Jim Sheldon, director

• HAL MOHR, ASC, "The Boss," (Boss Prods for UA release) with John Payne, William Bishop and Doe Avedon Byron Haskins, director.

• WALTER STRENGE, ASC., "Schlitz Playhouse of Stars," TV, (Meridian Prod.) Jack Gage, director

• NORBERT BRODINE, ASC, "The Loretta Young Show,' TV, (Lewislor Prod.) with Loretta Young. Richard Morris, director.

INDEPENDENTS

• STANLEY CORTEZ, ASC, "The Lonely Gun," (Roht, L. Jacks Prod. for UA release) with Anthony Quinn and Katy Jurado Harry Horner, director

• GUY ROE, ASC, "Gangbusters," TV, (Visual Drama, Inc.) Bill Kern, director.

• BITT MARSHALL, 'Pharoah's Curse" (Bel Air Prod. for UA release) with Mark Dana and Ziva Shapir Lee Sholem, director

• RAY FLIN, 'Creatures from Green Hell' (Gross-Krasne Prod.) with Jim Davis and Robert E Griffin Kenneth Crane director

• FRED WEST, ASC, "It conquered the World," (Sunset Prod. for ARC release) with Peter Graves and Beverly Garland Roger Corman, director-producer

• CHARLES VAN ENGER ASC, The Brass Legend," (Bob Goldstein Prod for UA release) with Hugh O Brien Nancy Gates and Raymond Burr Gerd Oswald, director

• FRANK PLANER, ASC, "The Pride and the Passion," (Technical, VistaVision) (Stanley Kramer Prod for U A shooting in Spain) with Cary Grant and Frank Sinatra Stanley Kramer, producer director

KEY WEST STUDIOS

• WALTER STRENGE, ASC, Series of religious pictures, TV. William Claxton, director.

KLING STUDIOS

• BRYDON BAKER, "Snowfire," (McGowan Prods.) (Eastmancolor, wide-screen) with Don McGowan and Molly McGowan.

• GLENN MACWILLIAMS, Richfield Oil commercial, TV Hank Ludwin, director

KTTV STUDIOS

• MACK STENGLER, ASC 'Liberace," TV (Guild Films Inc.) with Liberace Duke Goldstone, director, "Here Comes Tobar," TV (Guild Films) with Tiger Fanfara. Duke Geldstone, director

• ELLSWORTH FREDERICKS, ASC, "Five Steps To Terror," (Grand Prod for UA release) with Ruth Roman and Sterling Hayden Henry S Kesler, producer director

METRO-GOLDWYN-MAYER

● Fred Jackman, Jr., "Juke," (Arwin Prods for MGM release) with Doris Day, Louis Jourdan, Barry Sullivan and Frank Lovejoy. Andrew Stone, director.

● Robert Bronner, "The Opposite Sex," (CinemaScope & Color) with June Allyson and Jeff Richards. Dave Miller, director

● Robert Surtees, ASC, "Raintree County," (65mm and Color) with Montgomery Clift and Elizabeth Taylor. Edward Dmytryk, director.

● John Alton, "Tea and Sympathy," with Deborah Kerr and John Kerr. Vincente Minnelli, director

● Russell Harlan, ASC, "Teahouse of the August Moon," (Color, CinemaScope) (shooting in Japan) with Marlon Brando and Glenn Ford. Daniel Mann, director

● Fred A. Young, ASC, "The Barretts of Wimpole Street," (CinemaScope & Color) (shooting in England) with Jennifer Jones and Sir John Gielgud. Sidney Franklin, director

● Joseph Brun, ASC, "A Man Is Ten Feet Tall," (Jonathan Prod., shooting in New York City) with John Cassavetes and Kathleen Maguire. Martin Ritt, director

● George Folsey, ASC, "The Power and the Prize," with Robert Taylor, Burl Ives and Elisabeth Mueller. Henry Koster, director

MOTION PICTURE CENTER

● Robert De Grasse, ASC, "Make Room for Daddy," TV, (Desilu Prod.) with Danny Thomas, Jean Hagen and Sherry Jackson. Sheldon Leonard, director.

● Sid Hickox, ASC, "The Red Skelton Show," TV, (Desilu Prod.) with Red Skelton. C. Burns, director

● Nick Musuraca, ASC, "The Line Up," TV, (Desilu Prod.) with Warren Andersen. H. Morse, director

PARAMOUNT

● Charles Lang, ASC, "Gunfight at the O.K. Corral," (VistaVision & Technicolor) with Burt Lancaster, Kirk Douglas, John Ireland and Jo Van Fleet. John Sturges, director.

● Loyal Griggs, ASC, "The Maverick," (VistaVision & Technicolor) with Charlton Heston, Anne Baxter and Gilbert Roland. Rudy Mate, director.

● Ernest Laszlo, ASC, "The Loves of Omar Khayyam," (Technicolor, VistaVision) with Charlton Heston, Anne Baxter and Gilbert Roland. William Dieterle, director

● Lionel Lindon, ASC, "The Lonely Man," (Technicolor, VistaVision) with Jack Palance and Elaine Aiken. Henry Levin, director.

● Ray June, ASC, "Funny Face," (Technicolor, VistaVision) with Audrey Hepburn and Fred Astaire. Stanley Donen, director

● Daniel Fapp, ASC, "Hollywood or Bust," (Technicolor, VistaVision) with Dean Martin, Jerry Lewis and Pat Crowley. Frank Tashlin, director

REPUBLIC STUDIOS

● Ed Colman, ASC, "Dragnet," TV, (Mark VII Prod.) with Jack Webb. Jack Webb, director

● John MacBurnie, ASC, "The Millionaire," TV with John Larch. Sobey Martin, director.

● Reggie Lanning, "Alfred Hitchcock Presents," TV. Robert Stevenson, director.

● Dan Clark, ASC, "Do You Trust Your Wife," TV, (Don Monya Co.) with Edgar Bergen. Jim Morgan, director.

RKO

● Joseph Biroc, ASC, "Tension at Table Rock," with Richard Egan, Dorothy Malone and Cameron Mitchell. Charles Marquis Warren, director.

● George Diskant, ASC, "Stage Seven, Hall of Stars," TV, (Four Star Prods.).

● William Mellor, ASC, "Back From Eternity," with Robert Ryan and Anita Ekberg. John Farrow, producer director.

● William Snyder, ASC, "Beyond a Reasonable Doubt," with Dana Andrews and Joan Fontaine. Fritz Lang, director

● Ray Fernstrom, ASC, "Return to Eternity." (Air Scenes.) John Farrow, director.

HAL ROACH STUDIOS

● Lucien Andriot, ASC, "The Life of Riley," TV, with William Bendix. Abby Berlin, director.

● Paul Ivano, "Stories of John Nesbitt," TV, with John Nesbitt. Various directors.

● Jack Mackenzie, ASC, "Code 3," TV. Ted Post and Paul Landers, directors; "Frontier," TV (Tomoda Prod.). Various directors.

20TH CENTURY FOX

● Milton Krasner, ASC, "Bus Stop," (CinemaScope & Color) with Marilyn Monroe, Don Murray and Arthur O'Connell. Joshua Logan, director

● Leo Tover, ASC. "The Day the Century Ended," (CinemaScope & Color) with Robert Wagner. Richard Fleischer, director

● Wilfred Cline, ASC, "The Last Wagon," (DeLuxe Color, CinemaScope) (shooting at Sedona, Ariz.) with Richard Widmark and Tommy Rettig. Delmar Daves, director

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UNIVERSAL - INTERNATIONAL

● Russell Metty, ASC, "Battle Hymn," (CinemaScope) with Rock Hudson, Douglas Sirk, director.

● Ellis Carter, ASC, "The Mole People," with John Agar and Cynthia Patrick. Virgil Vogel, director; Eastman Kodak commercial, TV. Jack Daniels, director

● Harold Lipstein, ASC, "The Great Man," with Joseph Ferrer and Mona Freeman. Jose Ferrer, director

● George Robinson, ASC, "Gun for a Coward," (Technicolor) with Fred MacMurray and Chill Wills. Abner Biberman, director

● Irving Glassberg, ASC, "Star Light," (Technicolor, CinemaScope) with George Nader and Julie Adams. Jack Sher, director.

● Arthur Arling, ASC, "Tammy," (Technicolor, CinemaScope) with Debbie Reynolds and Leslie Nielsen. Joseph Pevney, director.

● Maury Gertsman, ASC, "I've Been Here Before," with Jock Mahoney and Leigh Snowden. Richard Bartlett, director; Calgate commercial, TV. Wil Cowan, director.

● Jock Feindel, ASC, Marlboro commercial, TV. Wil Cowan, director

● Lester White, ASC, Marlboro commercial, TV, Wil Cowan, director, Pabst Blue Ribbon commercial, TV, Jack Daniels, director, Eastman Kodak commercial, TV, Jack Daniels, director

● Harold Lipstein, ASC, Marlboro commercial, TV. Wil Cowan, director.

● Wilfrid Cline, ASC, Pepsi Cola commercial, TV, with Polly Bergen. Wil Cowan, director.

WARNER BROS

● Hal Rosson, ASC, "Toward the Unknown," (Warner Color & CinemaScope) (Toluca Preds.) with William Holden, Lloyd Nolan, and Virginia Leith. Mervyn LeRoy, director.

● Robert Burks, ASC, "The Wrong Man," (Alfred Hitchcock Prod., shooting in New York City) with Henry Fonda and Vera Miles. Alfred Hitchcock, director

● Harold Stine, ASC, "Anthology Series," TV. Don Weis, director, "Cheyenne," TV, (Warner Bros. Presents) with Clint Walker. Richard Bare, director

● Carl Guthrie, ASC, "The Last Stop," TV, with James Dunn and John Barrymore, Jr. Tom Greis, director.

● Floyd Crosby, ASC, "The Old Man and the Sea," (WarnerColor; wide-screen) (shooting in Cuba) with Spencer Tracy. Fred Zimmermann, director.

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NEW OXBERRY CAMERA

(Continued from Page 319)

ed onto the compound. A thumb slide shifts the viewfinder up and down changing the magnification for 16mm work.

An outstanding feature of the new camera involves the 35mm-16mm reticle design. All reticles are mounted in ground steel dove-tail plates having super-fine ground glass precisely mounted and aligned to match the film registration pins.

Markings on the ground glass reticles are essentially a series of rectangles. Starting with the largest and going down to the smallest they are as follows: (1) silent aperture, (2) camera sound aperture, (3) 35mm sound projection aperture, (4) dotted 25% TV cut-off aperture for 35mm, (5) 16mm camera aperture, (6) 16mm projection aperture, (7) dotted 25% TV cut-off aperture for 16mm. Reticles also have horizontal and vertical cross-lines common to all rectangles. A short tick represents the center of silent 35mm or 16mm film.

All Oxberry reticles are interchangeable and are available on clear glass for projection of light. The reticle gauge plate may be used as a visual gauge for viewing alignment and for center or squareness of developed negative stock. By holding the reticle gauge over any light source, a film that is mounted on pins may be checked visually.

Sprocket assemblies of the camera are readily installed or removed by manipulating two knurled thumb screws. A unique two-speed spindle transmits motive power to the sprocket assembly and proper engagement is accomplished automatically when either the 35mm or 16mm sprocket assembly is put in place.

Certain work requirements can be accommodated when a special cutout back pressure plate is installed. A light may be inserted for projection. For long rotascope work, there is an assembly that has a light between two sprockets. For super critical lineup work, a plug at the rear of the camera is removed, also sprocket assembly is removed to permit the operator to sight straight through the shuttle and lens.

An automatic take-up which attaches directly to the camera is designed with a torque motor on each spindle. In operation, only one of the motors is energized, depending on whether the camera is moving forward or reverse. The dead motor serves as a drag or brake. The take-up is ready for either forward or reverse camera action by merely operating a switch. Magazines accommodate 400 ft. reels of 35mm or 16mm film. Auxiliary take-up arms are available for 1000 ft. reels and for bi-pack work.

For optical printer installations the camera is essentially the same except that it is not the rack-over type. The superimposure device is mounted in front of the shuttle for reflex viewing through the photographic lens on the printer.

Regardless of whether the camera is used for animation or optical printer work, it may be converted in 5 minutes from 35mm to 16mm without disturbing critical alignment.

WIDE ANGLE PROBLEMS

(Continued from Page 301)

— even when the camera is not tilted — due to barrel distortion inherent in many extreme wide angle setups. Cinerama does not have this as the optics of this system are those of a simple 27mm lens. Todd AO has it to a great extent but corrects it in the optical printing step. All other wide screen systems have it in varying degrees.

As can be imagined, these two distortions — particularly when combined — make the problem of verticals even more troublesome than we have seen with the horizontals. There is little to be done about them except the obvious: keep pronounced verticals out of the extremes of the frame either by blocking them off or by changing the setup. Fortunately the extent of the problem — and usually its solution — can be seen on the ground glass of the camera finder. The eye is easily offended by bent buildings, etc., so as a general rule any verticals at the extremes of the frame should be studied with suspicion.

There is a further problem — the bending of sight lines — which I have not mentioned before because it is only likely to give trouble in cases of the most extreme wide angle lens. I mentioned once before of thinking of the distortion of horizontal lines as a bending backward into the screen. Even a line running through the center of the screen will be bent back in depth, but since we are shooting straight on it appears not to bend.

Suppose, instead of a straight line, we substitute a line of faces all looking at some distant point behind the camera. When projected, it will appear that the actors are all looking at different points with only those in the center looking in the true direction. This is due to the fact that as the line bends back, each person is rotated slightly in relation to the camera. This may not be noticeable just looking at the faces, but if we are close enough to see their eyes, the effect will be quite apparent. This can easily be corrected, of course, by giving the actors different points to

look at according to their position in the line, as determined in the ground glass. As may be imagined, this was a definite problem when shooting dialogue or making crowd shots in Cinerama. Actors talking to one another had to be given points to look at so that they would appear to be looking at one another and if, during a scene, an actor changed position in the frame, he had to be given a second point. This gave us a good deal of grief at first, as this distortion could not be seen on the Cinerama ground glass. But as we became familiar with the problem we had little difficulty. Outside of the Cinerama process, which has no choice of lenses, there is little likelihood of running into this, as few directors would shoot a dialogue scene with an extreme wide angle lens.

Long before wide screen was thought of, cameramen were familiar with the "pulled out" effect of wide angle lenses. A small round object photographed in the center of a screen will still appear round; but if it is moved toward the edge of the field it is pulled sideways — out of shape. This, of course, is due to the fact that at the sides of the field the image is hitting the film at an angle. As we get into wider and wider lens angles this effect becomes even more pronounced. Cinerama has very little of this problem (considering the angle it covers) since it is using three strips of film, which are perpendicular to the axis of the lenses. Todd-AO also has very little of this distortion since American Optical Company has introduced compensating distortion into Todd-AO lenses to counteract it. With other wide screen systems the distortion is very evident. It is from this we get our old adage about not making closeups or panning with wide angle lenses. As the lenses keep getting wider this certainly holds more than ever. However, there are certain situations where we have found it possible to pan even with the most extreme wide angle lens.

Where there are pronounced horizontal lines low or high in the screen, a normal pan from a stationary camera position is certainly not desirable as it will call attention to a bent line that may have been unnoticed before. A street may curve, but if the curve keeps changing as it goes across the screen, you are asking a lot of the credulity of your audience. Even without any pronounced geometry in the scene the "pulling out" of objects and their resultant increase in their speed of travel at the edges of the frame will be disturbing. However, in a fast pan, or a pan following some object, such distortions will probably go unnoticed.

Take the familiar scene in which an actor must walk down a street past the camera; the camera panning with him If he walks far enough away from the camera to remain full figure all the time, the audience will have plenty of time to watch those lines bend their way tortuously through the picture. If, however, the actor is allowed to walk close to the camera, the increased screen size of his body will block off and break up the distorted lines, and the increased speed of the pan will not permit time for the distortions to be observed

In most situations, even a slow pan will be quite acceptable if it is made while the camera is moving. With the camera in motion the "pulled out" effect described before is already present and is actually a factor that heightens the feeling of movement; and any distortion of lines is usually lost in the forward motion. For these reasons, in making running or dolly shots with wide angle lenses, the distortions are practically never noticed (with the possible exception of moving with the camera shooting straight to the side) particularly when moving with the subject. This is fortunate, for it is in movement that these lenses can be used to great effect. The increase of speed of people or objects moving through the sides of the screen approaches the effect our eyes actually see and give us a truer feeling of motion. This effect is even more pronounced if we are in a crowded or confined space — the shot moving through the narrow alley in "Summertime," or the shot moving through the cornfield in "Oklahoma!"

Beside the advantages of the extreme wide angles in movement it has the further advantage of giving us the opportunity to put the audience into the action Besides photographing straight ahead these lenses are shooting to a considerable extent to the side. By moving in close to the action with an extreme wide angle lens we do considerably more than show the audience a picture of a specific action In effect, we surround them with the action. A good example of this is the New Orleans jazz sequence, and the art students' ball sequence in "Cinerama Holiday." The audience is caught up in the action and excitement in a way that could only be achieved when a wide angle lens is joined with wide screen.

In many cases the wide angle is the lens "in the bottom of the box" — brought out only when lack of space forces its use. Greater understanding of its virtues and limitations can do much to increase its effectiveness in wide screen photography.

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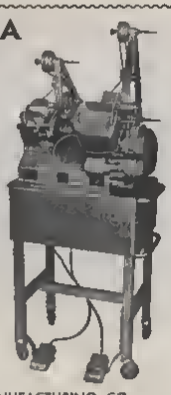

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(Continued from Page 298)

color balance a headache, but even exposure a real difficulty. Three days went in script consultations with the producer and the men on the spot, leaving seventeen days to shoot. To some extent the shortage of time was overcome by the unit being flown out to locations by the Bishop himself, who has some 4,000 hours on his private license.

To avoid tropical deterioration, exposed film was flown back to Australia for processing, but with an overall schedule so short, there was no chance of viewing the rushes. This meant that director and cameraman were completely in the dark as to how things were going, for neither saw a foot of their work until the film came back from the censor a week after their return home.

Lighting interiors was a major problem. These were lit with 110-volt reflector-floods, with the assistance of two reflector-spots; 110-volt units were chosen, since amongst the few current supplies available were to be found both 110 and 240 volt systems. By using a series-parallel switching board, the lights could be used with either supply. Nowhere could more than six units be run at the one time, as even this put a rather terrifying load on the flimsy, makeshift house wiring. For the shots of the natives receiving the Sacraments, the only current available was from a small portable generator flown in by plane. Driven by a two-stroke motor, it delivered the grand total of 500 watts. Thus only close shots were possible, as no more than one shot could be run without the unit blowing up. The entire sequence showing the native receiving the last rites, the native children going to Confession, and the Nuptial Mass were shot with but a single reflector spot for illumination!

Native sing-sings, congregational singing, etc., were recorded on a Velco 240-volt, 50-cycle tape recorder, powered by the portable generator delivering 240-volt 60 cycle power. Current fluctuations caused some wowing in the resultant recordings, but in the sing-sing this only added to the unusualness of the refrains. Avoiding the noise of the two-stroke engine was quite a difficulty, solved only by putting the generator as far out in the jungle as the local supply of war surplus cable would allow. Owing to the 60 cycle nature of the current, recordings ran slow when played back at Australia's standard 50 cycles, this was overcome by putting a brass collar on the recorder's capstan to bring the frequencies back to normal.

The short sermon in Pidgin English was post-recorded for the second edition of the film, but by then it was impossible to know what had been said, when the shots were originally taken. Words had to be written to fit the lip movements, and once these had been carefully timed to the work print, they were recorded directly on to film, and spliced into the sound track.

A device used quite effectively to bridge rather abrupt cuts in the editing was to introduce as an off screen noise during the last few seconds of one sequence, the natural sounds of the following sequence, as though the two locations were close enough to allow the viewer to hear the sound before its cause is actually seen on the screen. For example, towards the end of the sequence dealing with the total destruction of all the Mission buildings, and the number of the missionaries lost during the war, you begin to hear the sound of a tractor hard at work; the next sequence opens with a closeup of the plough shear cutting through the red earth, followed by a longer shot of a Father at work on a tractor vigorously clearing the sight for the new buildings.

Perhaps the little company's strangest expense was payment for the sing-sing. These are normally performed at night and it was necessary to induce the natives to perform during the day, and in full sunlight as well, dancing in the tropical sun is no congenial task especially to a New Guinea native, so for this special performance the unit had to pay big money—a carton of canned meat.

Shooting was completed during the month of May, and by the following November the first print was ready for screening. Bishop Arkfeld, then on his way home on leave, called at Melbourne for the grand premiere.

"Other Sheep Have I" is but one of four mission films produced by C F Productions; others cover missions in Northern Australia, the Trobriand Islands (Eastern Papua), and Rabaul (New Britain).

A print of one of the films, "The Brown Veil," especially produced for the Catholic Life Exhibition, and which tells the story of the growth and work of Australia's greatest teaching order of Nuns, The Sisters of St Joseph, was quickly ordered by the Australian Commonwealth National Film Library for inclusion in its collection of films of National Value.

Incidentally the American Cinematographer's request for an article on C F P's film production activities was carried by a native girl from Maprik to the village of Ulupu in the mountains of North Central New Guinea, where the unit was engaged on its latest venture a story film entitled "Jungle Parish."

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(Continued from Page 311)

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INDUSTRY NEWS

(Continued from Page 290)

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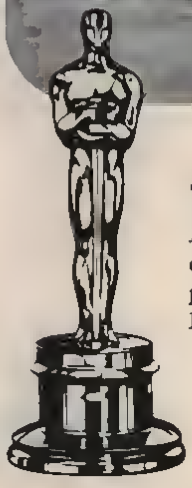

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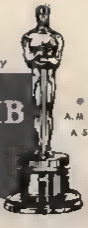

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